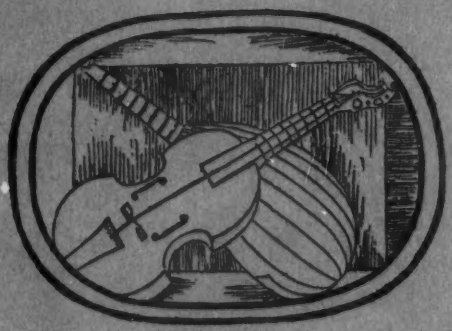
THE
Galpin Society
JOURNAL



MARCH 1961

XIV

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THE GALPIN SOCIETY was formed in October 1946 with the object of bringing together all those interested in research into the history of European musical instruments. Its name commemorates the pioneer work of the late Canon Francis W. Galpin; its aims are to promote the study of the history, construction and functions of instruments of music and all cognate subjects, and to further this research by the publication of a JOURNAL and by all other practicable means. The Society plans to compile and publish bibliographies, catalogues and monographs on organological matters.

The Society is non-profitmaking; application for membership may be made by anyone, irrespective of nationality or country of residence. The annual subscription (one guinea) entitles the member to one free copy of the Society's JOURNAL for that year, and to a substantial reduction in the prices of the Society's other publications.

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JOURNAL

AN OCCASIONAL PUBLICATION . NUMBER XIV . MARCH 1961

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The JOURNAL will appear not less often than once a year. It is issued free to full members of the Galpin Society; the subscription price to others will be one guinea a year post paid. The responsibility for opinions expressed in contributions to the JOURNAL rests with the writers. Material appearing in the JOURNAL is copyrighted by the Society and may not be reprinted without its permission.

EDITOR'S NOTE

Publication of the second instalment of the 'Provisional Index of Present-day Makers of Historical Musical Instruments' is delayed owing to heavy demands on the Hon Editor's time, not only in preparing the present issue for appearance within the membership year 1960–61, but also through the arrival, amid its preparation, of galley proofs of the forthcoming Pelican Book *Musical Instruments*, a Galpin Society symposium.

ERICH M. VON HORNBOSTEL AND CURT SACHS

Classification of Musical Instruments

TRANSLATED FROM THE ORIGINAL GERMAN*
BY ANTHONY BAINES AND KLAUS P. WACHSMANN

TRANSLATORS' PREFACE

The revival of a learned treatise about half a century after its first appearance is an unusual event, and there must be cogent reasons for taking such a step. In the present case the reasons are not hard to state. No other system of classification is more frequently quoted, nor has any later system been able to supplant it. On these grounds alone it would be difficult to write it off as being out-of-date.

Apart from the arguments of the system itself, the biting comments on curators and collectors, and on the waywardness of their cataloguing, are as relevant today as they were fifty years ago. Reed instruments are still apt to be labelled as trumpets if the bell is flared—there is a dismal case of this in one of our great museums at present—and the terminology is still at times as muddled as it was in the many instances of which Hornbostel and Sachs complained; while as for anthropologists, their publications do not invariably give proof that all have read their *Zeitschrift für Ethnologie*.

It is true that criticisms have been made, and modifications demanded here and there; even the authors did not subsequently feel themselves rigidly bound to what they had first stated in 1914, when they also tried to anticipate those points over which need for revision was most likely to arise. A good account of these criticisms has been given in Jaap Kunst's *Ethnomusicology* (3rd edn., The Hague, 1959). None of the critics, however, could persuade the present translators that a return to the original text might involve the undesirable resurrection of some best-forgotten error. On the contrary, the discussions of the system's merits or demerits have convinced them that it is necessary for students to have easy access to the source itself. This is not meant to imply that the Hornbostel-Sachs tables are in all circumstances easily applied; one need but think of some of the many varieties of stamping tubes, e.g. of the slender 'stamping tubes' of the Shambala of East Africa, who 'make slits [in the tubes] and wave them backwards and forwards while dancing, so that the tongues are caused to vibrate by atmospheric pressure' (Hornbostel, 1933, p. 296), or

* Erich M. von Hornbostel und Curt Sachs, 'Systematik der Musikinstrumente. Ein Versuch', *Zeitschrift für Ethnologie*, Jahrg. 1914. Heft 4 u. 5. (Berlin, 1914.) The translators are grateful to Professor Georg Eckert, Editor of the *Zeitschrift*, for his assent to the work's republication.

of the bamboo tubes which they strike against the ground or drum upon with twigs; or of the stamping tubes of their next-door neighbours, the Pare, who cover the end of the tube that hits the ground with a membrane. Are these cases of *Kontamination* (see below, paragraph 14) of a basic type 'stamping tube', or is the first a type of free aerophone (41 in the tables), the second a plosive aerophone (413), the third a percussion idiophone (111.2), and the fourth a membranophone (21) of sorts?

The original text did not reach a large musical public since it appeared in the comparative obscurity of an ethnological journal, while also, being written in German, it did not become as widely known in the English-speaking world as it might have done otherwise. Thus there is a clear case for now offering an English translation. To do so at this moment will serve also as a fitting memorial to Professor Curt Sachs, who died in 1959. Posterity can pay no higher tribute to a scholar than to return to his and his collaborator's work and put it into the hands of a wider public than knew it before. It is in this spirit that the English translation is published.

The text paragraphs were not numbered in the original. Words in *square* brackets are the authors' if German, and the translators' if otherwise. The translators' terminology in the tables takes due account of English terms used by the authors in their various later publications—as Hornbostel in 'The Ethnology of African Sound-Instruments', *Africa*, vol. VI (London, 1933), glossary, pp. 303–11; and Sachs in *The History of Musical Instruments* (New York, 1940), 'Terminology', pp. 454–67. Many of their English terms have come into wide use, and have been kept save in a few cases where a change (even in one case to French) seemed to the translators unavoidable or greatly preferable. Most of the more obscure instruments cited in the tables are described by Sachs in his *Real-Lexikon* (Berlin, 1913). Footnotes are original unless stated.

Classification of Musical Instruments

TREATISES on systems of classification are by and large of uncertain value. The material to be classified, whatever it may be, came into existence without any such system, and grows and changes without reference to any conceptual scheme. The objects to be classified are alive and dynamic, indifferent to sharp demarcation and set form, while systems are static and depend upon sharply-drawn demarcations and categories.

2. These considerations bring special difficulties to the classifier, though also an attractive challenge: his aim must be to develop and refine his concepts so that they better and better fit the reality of his material, sharpen his perception, and enable him to place a specific case in the scheme quickly and securely.

3. A systematic arrangement for musical instruments concerns firts of all musicologists, ethnologists, and curators of ethnological collec-

tions and those of cultural history. Systematic arrangement and terminology are urgently needed, however, not only for collections of material, but also for their study and in its interpretation. He who refers to a musical instrument by any name or description he pleases, being unaware of the points which matter, will cause more confusion than if he had left it altogether unnoticed. In common speech technical terms are greatly muddled, as when the same instrument may be indiscriminately called a lute, guitar, mandoline, or banjo. Nicknames and popular etymology also mislead the uninitiated: the German *Maultrommel* is not a drum, nor the English *Jew's* (properly *jaw's*) *harp* a harp, nor the Swedish *mungiga* a *Geige* [fiddle], nor the Flemish *tromp* a trumpet; only the Russians are correct when they call this same instrument, a plucked lamella, by the uncommitted term *vargan* (from Greek ὄργανον, 'instrument'). Homonyms are no less dangerous than synonyms: the word *marimba*, for instance, denotes in the Congo the set of lamellae usually called *sansa*, but elsewhere it denotes a xylophone. Ethnological literature teams with ambiguous or misleading terms for instruments, and in museums, where the field-collector's report has the last say, the most senseless terms may be perpetuated on the labels. Correct description and nomenclature depend upon knowledge of the most essential criteria for the various types,—a condition which, as a visit to a museum will show, is hardly ever met. One will find, for instance, that oboes, even when still in the possession of the double reed which unmistakably proclaims them for what they are, are noted as flutes, or at best as clarinets; and should the oboe have a brass bell one may be certain of the label 'trumpet'

4. A system of classification has theoretical advantages as well as practical uses. Objects which otherwise appear to be quite unrelated to each other may now become associated, revealing new genetic and cultural links. Herein will always be found the leading test of the validity of the criteria upon which the system is based.

5. The difficulties which an acceptable system of classification must surmount are very great, since that which suits one era or nation may be unsuitable as a foundation for the instrumental armoury of all nations and all times. Thus the Ancient Chinese based their classification on material, distinguishing between instruments made of stone, metal, wood, gourd, bamboo, hide and silk; consequently, to them, trumpets and gongs, stone harmonicas and marble flutes, shawms and clappers, each belonged together.

6. Our own present-day practice does not amount to much more. Sound-instruments are divided into three major categories: stringed instruments, wind instruments, and percussion instruments. This

cannot be defended even on the grounds that it satisfies day-to-day requirements. A large number of instruments cannot be fitted into any of the three groups without placing them in an unnatural position, like the celesta, which, as a percussion instrument, is brought into close proximity to drums and so on. As a remedy one introduces a fourth group under the disconcerting heading 'miscellaneous'—in any systematic grouping an admission of defeat. Moreover, the current classification is not only inadequate, but also illogical. The first requirement of a classificatory system is surely that the principle of demarcation remains the same throughout for the main categories. Our customary divisions, however, follow two different principles, stringed instruments being distinguished by the nature of the vibrating substance but wind and percussion by the mode of sound-excitation—ignoring the fact that there are stringed instruments which are blown, like the Aeolian harp, or struck, like the pianoforte. The customary subdivisions are no better. Wind instruments are divided into woodwind and brass, thus giving a subordinate criterion of differentiation, namely, material, an unjustifiable predominance and flagrantly disregarding the fact that many 'brass' instruments are or were once made of wood, like cornetts, serpents and bass horns, and that in any case many 'woodwind instruments' are optionally or invariably made of metal, as flutes, clarinets, saxophones, sarrusophones, tritonicons, etc.

7. The objections which can be raised against the crudity of the customary divisions are now familiar to organology [*Instrumentenkunde*], and in recent decades scholars have made more than one attempt to attain something more satisfactory. Leaving aside classifications which have owed their structure to the peculiarities of this or that collection, catalogues have latterly in general adopted a system which Victor Mahillon has used since 1888 for his comprehensive catalogue of the Museum of the Brussels Conservatoire.

8. Mahillon takes the nature of the vibrating body as his first principle of division, and thus distinguishes between instruments [1] whose material is sufficiently rigid and at the same time sufficiently elastic to undergo periodic vibration, and named by him 'self-sounding instruments' (*instruments autophones**); [2] in which sound-waves are excited through the agency of tightly-stretched membranes; [3] in which strings vibrate; and lastly [4] in which a column of air vibrates. Thus he distinguishes four categories: self-sounders, membrane instruments, stringed, and wind instruments. Besides the uniformity of its principle

* For reasons which Sachs has explained in his *Reallexikon der Musikinstrumente* (Berlin, 1913, p. 195a), we prefer the term *idiophones*.

of division, the system has the great advantage in that it is capable of absorbing almost the whole range of ancient and modern, European and extra-European instruments.

9. Mahillon's system of four classes deserves the highest praise; not only does it meet the demands of logic, but also it provides those who use it with a tool which is simple and proof against subjective preferences. Moreover, it is not so far removed from previously-used divisions as to offend well-established custom.

10. It has seemed to us, however, that the four-class system stands in pressing need of development in fresh directions. Mahillon started on the basis of the instruments of the modern orchestra, with which, as an instrument manufacturer and musician, he was in closest contact, and it was these which gave him the initial challenge to work out his system. Then, as the collections of the Brussels museum grew under his direction, he explored over years of relentless effort the limitless field of European and exotic organology. Inevitably a newly-acquired specimen would now and then fail to fit into the system, while certain subdivisions which figure importantly among European instruments—e.g. those of keyboard and mechanical instruments—assumed an unwarrantably prominent place. Mahillon had indeed been led for the sake of the European instruments, to juxtapose categories which did not logically build a uniform concept. Thus he divided the wind instruments into four branches, (1) reed instruments [*instruments à anche*], (2) mouth-hole [*instruments à bouche*], (3) polyphone instruments with air reservoir, and (4) cup-mouthpiece instruments [*instruments à embouchure*]. Consider too the drums, which he grouped as frame drums, vessel drums, and double-skin drums; he consequently divided the skin drums corresponding to our side- and kettle drums—and likewise the autophones—into instruments of untuned pitch (*instruments bruyants*) and those of tuned pitch (*à intonation déterminées*). This is an awkward distinction, since a wide range of transitional sounds occurs between pure noises and noise-free tones; indeed, save for a few laboratory instruments, there are no sound-producers that can truly be said to yield either pure noise or pure tones, the sounds of all the usual musical instruments being more or less wrapped in noise. Mahillon later seems to have sensed this when he contrasted noise-instruments with those *à intonation nettement* or *intentionellement déterminée*; but the criterion is subjective and as a rule incapable of proof.

11. In general, Mahillon was right to subdivide the four main classes into 'branches' differentiated by playing action. Yet for stringed instruments it was a dubious procedure; a violin remains a violin whether

one bows it with a bow, plays it pizzicato with the fingers, or strikes it *col legno*. Perhaps this seems a lopsided argument, since the violin is, after all, designed to be bowed. But there are other instances. One could cite instruments whose playing action has changed in the course of time but whose form has remained unaltered. This was the case, for example, with the ancient Celtic crowd, which can be proved to have been plucked in the earliest times, but which came to be bowed in the High Middle Ages: should the history of instruments therefore deal with it half in a chapter on plucked stringed instruments and half in one on bowed, although the instrument itself remains just the same? Then there is the psaltery, which is turned into a dulcimer [*Hackbrett*] when the player uses beaters; should one, in a collection, separate the psalteries, otherwise indistinguishable from each other, into two groups on the grounds that in one country of origin it was customary to pluck it but in another to beat it? Should I place the clavichord and the pianoforte side by side but house the harpsichord with the guitars because its strings are plucked?

12. All these considerations have persuaded us to undertake afresh the attempt to classify musical instruments. We were fortunate in having at our disposal as a ready-made base the large and extensively described collections of the Brussels museum out of which Mahillon's system had grown. At the same time we are aware that with increasing knowledge, especially of extra-European forms, new difficulties in the way of a consistent classification will constantly arise. It would thus seem impossible to plan a system today which would not require future development and amendment.

13. Like Mahillon, we accept the physical characteristics of sound-production as the most important principle of division; but even at this point considerable difficulties are met since acoustic physics has so far covered but the smallest fraction of the preliminary investigations. Thus inadequate research has yet been undertaken on the sound-production of the bull-roarer, the vibratory manner in north-west American 'ribbon-reeds', the vibration events in bells, gongs, kettle-drums, plucked drums, and wind instruments with free reeds and fingerholes. To such difficulties must be added others arising from the morphology of instruments. The problem of defining the term 'frame drum' (*tamburin*) for example, is scarcely capable of satisfactory solution; undoubtedly the typical frame drum represents a concise concept not to be disregarded in any classificatory system, but the transition between this and the pronouncedly tubular drum occurs without a break, often making it impossible to decide on the basis of shape whether a specimen belongs to the one kind or to the other.

14. Other obstacles in the path of the classifier are instruments showing adulterations between types [*Kontaminationen*]. The fact of adulteration should be accounted for by placing such instruments in two (or more) groups. In museums and catalogues these cases will be arranged according to the dominant characteristic, but cross-references to other characteristics should not be omitted. Thus, among instruments of every class one may find rattling devices which belong to the inventory of idiophones—a feature which cannot be taken into account when placing the instrument in the classification. But where the adulteration has led to an enduring morphological entity—as when kettledrum and musical bow combine in a spike lute—it must have a place of its own within the system.

15. We must refrain from arguing our subdivisions in detail. Whosoever will check these critically, or test them in practice, will doubtless repeat the lines of thought which are not set out here, with minor variations of his own.

16. In classifications it is often customary to indicate the ranking of divisions within the system by means of specific headings, as especially in zoology and botany with expressions like class, order, family, genus, species, variant. In the study of instruments, Mahillon himself felt this need and met it by introducing the terms *classe*, *branche*, *section*, *sous-section*; on Gevaert's advice he refrained from using the term 'family' on account of its widely-known use for instruments of like design but of different sizes and pitches.

17. We consider it inadvisable to maintain consistent headings throughout all rubrics for the following reasons. The number of subdivisions is too big to manage without bringing in a petty superfluity of headings. Moreover, in any system one must leave room for further division to meet special cases, with the result that the number of subdivisions could for ever increase. We have purposely not divided the different main groups according to one uniform principle, but have let the principle of division be dictated by the nature of the group concerned, so that ranks of a given position within a group may not always correspond between one group and another. Thus terms like 'species' may refer in one case to a very general concept but in another to a highly specialized one. We therefore propose that the general typological headings be restricted to the topmost main groups, though one could, like Mahillon, speak of the four main groups as classes, of the next divisions (with a two-unit symbol [*zweiziffrig*]) as sub-classes, the next (three-unit) as orders, and the next (four-unit) as sub-orders.*

* Translators' note: It is not clear whether the authors here refer to Mahillon's letter-symbols or to their own numerical coding described further on.

18. We have refrained from providing a subdivision containing no known existing representative, save in cases where a composite type may be assumed to have had a precursor in a simpler type now extinct. Thus it can be assumed from analogy with numerous types that Man rubbed a solid, smooth block of wood with the moist hand before he ever carved a series of differently-pitched tongues by cutting notches into the block, as in the friction block of New Ireland. Again, where the wealth of forms is exceptionally vast, as with rattles, only the more general aspects of their classification can be outlined in the scheme, and these will certainly require further elaboration.

19. In general we have tried to base our subdivisions only on those features which can be identified from the visible form of the instrument, avoiding subjective preferences and leaving the instrument itself unmeddled with. Here one has had to consider the needs not only of museum curators but also of field workers and ethnologists. We have carried the subdivisions as far as seemed important for the observation of cultural history and detail, though the plan of the whole classification makes possible its application to the material either summarily or in great detail as desired; general treatises and smaller collections may not require to follow our classification to its last terms, while specialist monographs and catalogues of large museums may well wish to extend it in further detail.

20. The application of our findings in describing and cataloguing is substantially facilitated by use of the Dewey numerical system.* If those in charge of large collections who issue catalogues in the future decide to accept our numerical arrangement, it will become possible to find out at first glance whether a given type of instrument is represented in the collection.

21. The ingenuity of Dewey's idea lies in the exclusive use of figures, replacing the more usual conglomeration of numbers, letters and double letters by decimal fractions. These are so used that every further subdivision is indicated by adding a new figure to the right-hand end of the row; the zero before the decimal point being always omitted. Thus it becomes possible not only to pursue specification to whatever limits one desires and with never any trouble in the manipulation of the numbers, but also directly to recognize from the position of its last figure the ranking of a given term with the system.

It is also feasible in a row of numbers to divide off any set of figures by points. Say, for example, that it is a bell chime [*Glockenspiel*] which

* Since the numerical arrangement for the Bibliographie Internationale of Musical Instruments applies only to European instruments, and is anyhow as inadequate as can be, we have planned our own numerical order independently.

is to be coded and placed in the system. In the context of the system we are dealing with an idiophone, the class to which the initial code-figure 1 is allotted. Since the instrument is struck it belongs to the first subclass, and so another 1 is added (struck idiophones=11). Further addition of relevant code-figures produces the ranking 111 since it is struck directly; and then, as a struck-upon [percussion] idiophone, it earns a fourth figure, in this case 2 (1112=percussion idiophones). Further specification leads to 11124 (percussion vessels), 111242 (bells), 1112422 (sets of bells), 11124222 (sets of hanging bells), and 111242222 (ditto with internal strikers)—obviously, everyone must decide for himself how far to go in a given case. Instead of the unmanageable number now arrived at, we write 111.242.222. The first cluster shows that we are dealing with an idiophone that is struck directly, while the second and third together imply that we are dealing with bells.

22. Common considerations among all instruments of a class—e.g. with membranophones the method of fixing the skin, and with chordophones the playing method—may be noted with the aid of figures appended to the essential code-number by a hyphen: the pianoforte would be entered as 314.122–4–8 and the harpsichord 314.122–6–8, because 8 represents the keyboard, 4 the hammer playing-action, and 6 the plectrum playing-action, both instruments having the same main number indicating board zithers with resonator box.

23. Any of the subordinate criteria of division may, if desired, easily be elevated and treated as a higher rank in the classification, by switching the positions of figures. Thus, for a bagpipe in which chanter and drone are both of the clarinet type, the code-number would read 422.22–62, i.e. a set of clarinets with flexible air reservoir. But if, for instance in a monograph on bagpipes, one wished to especially distinguish these [chanter and drone] features, one could write 422–62:22, i.e. reed instrument with flexible air reservoir whose pipes are exclusively clarinets.

24. Conversely, in order to bring closer together groups which are separated in the system, it is possible to turn a main criterion of division into a subordinate one without destroying the system: one simply replaces the first relevant figure by a point (.) and then adds it after a square bracket] at the end of the number. Thus in the example of bagpipes, it might be important to specify these instruments as always polyorganic* but with components which are sometimes clarinets and sometimes oboes; instead of 422–62:22=reed instrument [*Schalmeieninstrument*], with flexible air reservoir, polyorganic, composed of clarinets, it might be preferable to write 422–62 : . 2=set of reedpipes

* Polyorganic means composed of several single instrumental units.

[*Schalmeienspiel*] with flexible air reservoir=bagpipe, and then to differentiate further by writing 422–62 : . 2]1=bagpipe of oboes, or 422–62 : .2]2=bagpipe of clarinets.*

25. Other specifications applying to a subordinate group are suffixed to the code-figures of the latter, e.g. 422–62 : . 2]212=a bagpipe of clarinets with cylindrical bore and fingerholes.

26. These innumerable cases in which an instrument is composed of parts which in themselves belong to different groups of the system could be indicated by linking appropriate figures by a plus sign. One then avoids repetition of a number common to both such parts, writing this number once and following it with a point: a modern trombone with slide and valve would then appear not as 423.22+423.23, but as 4232.2+3, and similarly bagpipes composed partly of clarinets and partly of oboes as cited above, would become 422.62 : .2]1+2.

27. In certain circumstances it may be necessary not only to rearrange the rankings of the concepts and create new subdivisions, but also to incorporate into the higher ranks of the classification some criterion which has purposely not so far been used. There is nothing to prevent this being done, and we should like to illustrate it by a final example, at the same time showing how we envisage the development of our system for special purposes. Let us imagine the case of a monograph on the xylophone. The system divides struck idiophones (111.2) by the shape of the struck bodies, thus: struck sticks (111.21), struck plaques (111.22), struck tubes (111.23), and struck vessels (111.24). Xylophones could fall into any of the first three, but the shape of the sounding bodies is here of little relevance—the transition from sticks to plaques being quite fluid—and so the fifth figure may be removed, and, if desired, added as]2 at the end. For the sixth figure we insert 2, if the description is to concern only multi-tone instruments, giving 1112. .2=sets of struck idiophones [*Aufschlagspiele*]. We must, however, exclude sounding bodies of metal, stone, glass, etc., and must therefore create a subdivision according to material which the system does not already provide, thus:

1112. .21=xylophone .. .. sounding bodies of wood
1112. .22=metallophone .. .. ,, ,, metal

* This use of the symbols – :] is slightly different from that of the Classification Bibliographique Décimale, but is nevertheless within its spirit. The rules are: the hyphen is employed only in connection with the appended figures listed in the tables [at the end of each of the four main sections]; subdivisions beyond these are preceded by a colon (thus 422–62=reed instrument with flexible air reservoir, but 422–6 : 2=422.2–6=oboe with air reservoir); subdivision answering to the omission of a figure is preceded by a square bracket.

1112. .23=lithophone .. .. ,, ,, stone
1112. .24=crystallophone .. .. ,, ,, glass.

28. Further stages in this classification of the xylophone would make use of morphological criteria significant from an ethnological point of view:

Classification

1112. .21.1 Bedded xylophone The sounding bodies rest on an elastic foundation

1112. .21.11 Log xylophone The foundation consists of separate logs. NB There is generally a shallow pit in the ground beneath the sounding bodies *Oceania, Indonesia, E. and W. Africa*

1112. .21.12 Frame xylophone The bearers are joined by cross rods or bars

1112. .21.121* Rail xylophone The frame hangs from the player's neck on a sling and is kept clear of his body by a curved rail *S.E., E. and W. Africa*

1112. .21.122* Table xylophone The frame is borne on a trestle *Senegambia*

1112. .21.13 Sledge xylophone The sounding bodies lie across the edges of two boards *C. Africa*

1112. .21.14 (Bedded) trough xylophone The sounding bodies lie across the edges of a trough- or box-shaped vessel *Japan*

1112. .21.2 Suspension xylophone The sounding bodies lie on two cords without any other foundation

1112. .21.21 (Free) suspension xylophone Without case *Cochin China*

1112. .21.22 (Suspension) trough xylophone With trough-shaped box *Burma, Java*

* To be further subdivided thus:

1 Without resonators
2 With resonators
21 With resonators suspended singly
22 With resonators stuck into a common platform.

NB The resonators, in most cases gourds, often have holes sealed by a membrane, showing adulteration with 242 (vessel kazoos). Possibly the method of mounting the membranes (directly, or over a cone-shaped frame) will demand another subdivision. One can, however, dispense with adding another number since frame xylophones without resonators are unknown.

29. The systematic survey of musical instruments which now follows in tabular form is meant equally to serve the purposes of identification. Hence the descriptions of characteristics are here and there expanded to include warnings against likely misunderstandings and confusion.

Explanations and examples are kept to a minimum; the former are not intended as descriptions, nor the latter as notes on the history of cultures. Also, visual study of specimens far outvalues pages of written description. The expert will know what we are driving at, while the layman will be able to find his bearings with the aid of a visit to a museum.

Classification

I IDIOPHONES The substance of the instrument itself, owing to its solidity and elasticity, yields the sounds, without requiring stretched membranes or strings

II Struck idiophones The instrument is made to vibrate by being struck upon

III Idiophones struck directly The player himself executes the movement of striking; whether by mechanical intermediate devices, beaters, keyboards, or by pulling ropes, etc., is immaterial; it is definitive that the player can apply clearly defined individual strokes and that the instrument itself is equipped for this kind of percussion

III.1 Concussion idiophones or clappers Two or more complementary sonorous parts are struck against each other

III.11 Concussion sticks or stick clappers *Annam, India, Marshall Is.*

III.12 Concussion plaques or plaque clappers *China, India*

III.13 Concussion troughs or trough clappers *Burma*

III.14 Concussion vessels or vessel clappers Even a slight hollow in the surface of a board counts as a vessel

III.141 Castanets Vessel clappers, either natural, or artificially hollowed out

III.142 Cymbals Vessel clappers with everted rim

III.2 Percussion idiophones The instrument is struck either with a non-sonorous object (hand, stick, striker) or against a non-sonorous object (human body, the ground)

III.21 Percussion sticks

III.211 (Individual) percussion sticks

Japan, Annam, Balkans; also the triangle

III.212 Sets of percussion sticks Several percussion sticks of different pitch are combined to form a single instrument

All xylophones, as long as their sounding components are not in two different planes [nicht biplan]

III.22 Percussion plaques

III.221 (Individual) percussion plaques *In the oriental Christian Church*

III.222 Sets of percussion plaques

Lithophone (China), and most metallophones

III.23 Percussion tubes

111.231 (Individual) percussion tubes *Slit drum, tubular bell*

111.232 Sets of percussion tubes *Tubaphon, tubular xylophone*

111.24 Percussion vessels

111.241 Gongs The vibration is strongest near the vertex

111.241.1 (Individual) gongs

S. and E. Asia; including the so-called metal drums, or rather kettle-gongs

111.241.2 Sets of gongs [*gong chimes*] *S.E. Asia*

111.242 Bells The vibration is weakest near the vertex

111.242.1 (Individual) Bells

111.242.11 Resting bells The cup is placed on the palm of the hand or on a cushion; its mouth faces upwards

China, Indo-China, Japan

111.242.12 Suspended bells The bell is suspended from the apex

111.242.121 Suspended bells struck from the outside. No striker is attached inside the bell, there being a separate beater

111.242.122 Clapper bells A striker (clapper) is attached inside the bell

111.242.2 Sets of bells [*chimes*] (subdivided as 111.242.1)

112 Indirectly struck idiophones The player himself does not go through the movement of striking; percussion results indirectly through some other movement by the player. The intention of the instrument is to yield clusters of sounds or noises, and not to let individual strokes be perceived

112.2 Shaken idiophones or rattles The player executes a shaking motion

112.11 Suspension rattles Perforated idiophones are mounted together, and shaken to strike against each other

112.111 Strung rattles Rattling objects are strung in rows on a cord

Necklaces with rows of shells

112.112 Stick rattles Rattling objects are strung on a bar (or ring)

Sistrum with rings

112.12 Frame rattles Rattling objects are attached to a carrier against which they strike

112.121 Pendant rattles Rattling objects are hung from a frame

Dancing shield with rattling rings

112.122 Sliding rattles Non-sonorous objects slide to and fro in the slots of the sonorous object so that the latter is made to vibrate; or sonorous objects slide to and fro in the slots of a non-sonorous object, to be set in vibration by the impacts

Anklung, sistrum with rods (recent)

112.13 Vessel rattles Rattling objects enclosed in a vessel strike against each other or against the walls of the vessel, or usually against both. NB The Benue gourd rattles with handle, in which the rattling objects, instead of being enclosed, are knotted into a net slipped over the outer surface, count as a variety of vessel rattle

Explanations and examples are kept to a minimum; the former are not intended as descriptions, nor the latter as notes on the history of cultures. Also, visual study of specimens far outvalues pages of written description. The expert will know what we are driving at, while the layman will be able to find his bearings with the aid of a visit to a museum.

Classification

I IDIOPHONES The substance of the instrument itself, owing to its solidity and elasticity, yields the sounds, without requiring stretched membranes or strings

II Struck idiophones The instrument is made to vibrate by being struck upon

III Idiophones struck directly The player himself executes the movement of striking; whether by mechanical intermediate devices, beaters, keyboards, or by pulling ropes, etc., is immaterial; it is definitive that the player can apply clearly defined individual strokes and that the instrument itself is equipped for this kind of percussion

III.1 Concussion idiophones or clappers Two or more complementary sonorous parts are struck against each other

III.11 Concussion sticks or stick clappers *Annam, India, Marshall Is.*

III.12 Concussion plaques or plaque clappers *China, India*

III.13 Concussion troughs or trough clappers *Burma*

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Fruit shells with seeds, 'pellet bells' enclosing loose percussion pellets

112.2 Scraped idiophones The player causes a scraping movement directly or indirectly: a non-sonorous object moves along the notched surface of a sonorous object, to be alternately lifted off the teeth and flicked against them; or an elastic sonorous object moves along the surface of a notched non-sonorous object to cause a series of impacts. This group must not be confused with that of friction idiophones

112.21 Scraped sticks A notched stick is scraped with a little stick

112.211 Scraped sticks without resonator *S. America. India (notched musical bow), Congo*

112.212 Scraped sticks with resonator *Usumbara, E. Asia (tiger)*

112.22 Scraped tubes *S. India*

112.23 Scraped vessels The corrugated surface of a vessel is scraped *S. America, Congo region*

112.24 Scraped wheels or cog rattles A cog wheel, whose axle serves as the handle, and a tongue fixed in a frame which is free to turn on the handle; when whirled, the tongue strikes the teeth of the wheel one after another *Europe, India*

112.3 Split idiophones Instruments in the shape of two springy arms connected at one end and touching at the other: the arms are forced apart by a little stick, to jingle or vibrate on recoil *China (huan t'u), Malacca, Persia (qašik), Balkans*

12 Plucked idiophones Lamellae, i.e. elastic plaques, fixed at one end, are flexed and then released to return to their position of rest

121 In the form of a frame The lamella vibrates within a frame or hoop

121.1 Clack idiophones (cricri) The lamella is carved in the surface of a fruit shell, which serves as resonator *Melanesia*

121.2 Guimbardes (Jews' harps) The lamella is mounted in a rod- or plaque-shaped frame and depends on the player's mouth cavity for resonance

121.21 Idioglot guimbardes The lamella is carved in the frame itself, its base remaining joined to the frame *India, Indonesia, Melanesia*

121.22 Heteroglot guimbardes A lamella is attached to a frame

121.221 (Single) heteroglot guimbardes *Europe, India, China*

121.222 Sets of heteroglot guimbardes Several heteroglot guimbardes of different pitches are combined to form a single instrument *Aura*

122 In board- or comb-form The lamellae are tied to a board or cut out from a board like the teeth of a comb

122.1 With laced-on lamellae

122.11 Without resonator *All sansas on a plain board*

122.12 With resonator *All sansas with a box or bowl below the board*

122.2 With cut-out lamellae (musical boxes) Pins on a cylinder pluck the lamellae *Europe*

13 Friction Idiophones The instrument is made to vibrate by friction

131 Friction sticks

131.1 (Individual) friction sticks *Unknown*

131.2 Sets of friction sticks

131.21 With direct friction The sticks themselves are rubbed *Nail fiddle, nail piano, Stockspiele*

131.22 With indirect friction The sticks are connected with others which are rubbed and, by transmitting their longitudinal vibration, stimulate transverse vibration in the former *Chladni's euphon*

132 Friction plaques

132.1 (Individual) friction plaques *Unknown*

132.2 Sets of friction plaques [*livika*] *New Ireland*

133 Friction vessels

133.1 (Individual) friction vessels *Brazil* (*tortoise shell*)

133.2 Sets of friction vessels *Verillon* (*glass harmonica*)

14 Blown idiophones The instrument is made to vibrate by being blown upon

141 Blown sticks

141.1 (Individual) blown sticks *Unknown*

141.2 Sets of blown sticks *Aeolsklavier*

142 Blown plaques

142.1 (Individual) blown plaques *Unknown*

142.2 Sets of blown plaques *Piano chanteur*

Suffixes for use with any division of this class (idiophones):

–8 with keyboard

–9 mechanically driven

2 MEMBRANOPHONES The sound is excited by tightly-stretched membranes

21 Struck drums The membranes are struck

211 Drums struck directly The player himself executes the movement of striking; this includes striking by any intermediate devices, such as beaters, keyboards, etc.; drums that are shaken are excluded

211.1 Kettle drums (timpani) The body is bowl- or dish-shaped

211.11 (Separate) kettle drums *European timpani*

211.12 Sets of kettle drums *W. Asian permanently joined pairs of kettle drums*

211.2 Tubular drums The body is tubular

211.21 Cylindrical drums The diameter is the same at the middle and the ends; whether or not the ends taper or have projecting disks, is immaterial

211.211 Single-skin cylindrical drums The drum has only one usable membrane. In some African drums a second skin forms part of the lacing device and is not used for beating, and hence does not count as a membrane in the present sense

211.211.1 Open cylindrical drums The end opposite from the membrane is open *Malacca*

211.211.2 Closed cylindrical drums The end opposite from the membrane is closed *West Indies*

211.212 Double-skin cylindrical drums The drum has two usable membranes

211.212.1 (Individual) cylindrical drums *Europe (side drum)*

211.212.2 Sets of cylindrical drums

211.22* Barrel-shaped drums The diameter is larger at the middle than at the ends; the body is curvilinear *Asia, Africa, Ancient Mexico*

211.23 Double-conical drums The diameter is larger at the middle than at the ends; the body is rectilinear with angular profile *India (mrdanga, banya, pakhavaja)*

211.24* Hourglass-shaped drum The diameter is smaller at the middle than at the ends *Asia, Melanesia, E. Africa*

211.25* Conical drums The diameters at the ends differ considerably; minor departures from conicity, inevitably met, are disregarded here *India*

211.26* Goblet-shaped drums The body consists of a main section which is either cup-shaped or cylindrical, and a slender stem; borderline cases of this basic design like those occurring notably in Indonesia, do not affect the identification, so long as a cylindrical form is not in fact reached *Darabuka*

211.3 Frame drums The depth of the body does not exceed the radius of the membrane. NB The European side-drum, even in its most shallow form, is a development from the long cylindrical drum and hence is not included among frame drums

211.31 Frame drums (without handle)

211.311 Single-skin frame drums *Tambourine*

211.312 Double-skin frame drums *N. Africa*

211.32 Frame drum with handle A stick is attached to the frame in line with its diameter

211.321 Single-skin frame drums with handle *Eskimo*

211.322 Double-skin frame drums with handle *Tibet*

212 Rattle drums (sub-divisions as for drums struck directly, 211) The drum is shaken; percussion is by impact of pendant or

* To be sub-divided like 211.21.

enclosed pellets, or similar objects *India, Tibet*

22 Plucked drums A string is knotted below the centre of the membrane; when the string is plucked, its vibrations are transmitted to the membrane *India (gopi yantra, anandalahari)*

23 Friction drums The membrane is made to vibrate by friction

231 Friction drums with stick A stick in contact with the membrane is either itself rubbed, or is employed to rub the membrane

231.1 With inserted stick The stick passes through a hole in the membrane

231.11 Friction drums with fixed stick The stick cannot be moved; the stick alone is subjected to friction by rubbing *Africa*

231.12 Friction drums with semi-fixed stick The stick is movable to a sufficient extent to rub the membrane when it is itself rubbed by the hand *Africa*

231.13 Friction drums with free stick The stick can be moved freely; it is not itself rubbed, but is employed to rub the membrane *Venezuela*

231.2 With tied stick The stick is tied to the membrane in an upright position *Europe*

232 Friction drum with cord A cord, attached to the membrane, is rubbed

232.1 Stationary friction drum with cord The drum is held stationary *Europe, Africa*

232.11 Single-skin stationary drums with friction-cord

232.12 Double-skin stationary drums with friction-cord

232.2 Friction drum with whirling stick The drum is whirled on a cord which rubs on a [resined[notch in the holding stick. *Waldteufel [cardboard buzzer] (Europe, India, E. Africa)*

233 Hand friction drums The membrane is rubbed by the hand

24 Singing membranes (Kazoos) The membrane is made to vibrate by speaking or singing into it; the membrane does not yield a note of its own but merely modifies the voice *Europe, W. Africa*

241 Free kazoos The membrane is incited directly, without the wind first passing through a chamber *Comb-and-paper*

242 Tube- or vessel-kazoos The membrane is placed inside a tube or box *Africa; while also, E. Asian flutes with a lateral hole sealed by a membrane, exhibit an adulteration with the principle of the tube kazoo*

Suffixes for use with any division of this class (membranophones):

–6 with membrane glued to drum

–7 with membrane nailed to drum

–8 with membrane laced to drum

–81 Cord-(ribbon-) bracing The cords are stretched from membrane to

membrane or arranged in the form of a net, without employing any of the devices described below

–811 Without special devices for stretching *Everywhere*

–812 With tension ligature Cross ribbons or cords are tied round the middle of the lacing to increase its tension *Ceylon*

–813 With tension loops The cords are laced in a zigzag; every pair of strings is caught together with a small ring or loop *India*

–814 With wedge-bracing Wedges are inserted between the wall of the drum and the cords of the lacing; by adjusting the position of the wedges it is possible to control the tension *India, Indonesia, Africa*

–82 Cord-and-hide bracing The cords are laced at the lower end to a non-sonorous piece of hide *Africa*

–83 Cord-and-board bracing The cords are laced to an auxiliary board at the lower end *Sumatra*

–84 Cord-and-flange bracing The cords are laced at the lower end to a flange carved from the solid *Africa*

–85 Cord-and-belt bracing The cords are laced at the lower end to a belt of different material *India*

–86 Cord-and-peg bracing The cords are laced at the lower end to pegs stuck into the wall of the drum *Africa*

NB –82 to –86 are sub-divided as –81 above

–9 With membrane lapped on A ring is slipped over the edge of the membrane

–91 With membrane lapped on by ring of cord *Africa*

–92 With membrane lapped on by a hoop

–921 Without mechanism *European drum*

–922 With mechanism

–9221 Without pedal *Machine timpani*

–9222 With pedals *Pedal timpani*

3 CHORDOPHONES One or more strings are stretched between fixed points

31 Simple chordophones or zithers The instrument consists solely of a string bearer, or of a string bearer with a resonator which is not integral and can be detached without destroying the sound-producing apparatus

311 Bar zithers The string bearer is bar-shaped; it may be a board placed edgewise

311.1 Musical bows The string bearer is flexible (and curved)

311.11 Idiochord musical bows The string is cut from the bark of the cane, remaining attached at each end

311.111 Mono-idiochord musical bows The bow has one idiochord string only *New Guinea (Sepik R.), Togo*

311.112 Poly-idiochord musical bows or harp-bows The bow has several idiochord strings which pass over a toothed stick or bridge *W. Africa* (*Fan*)

311.12 Heterochord musical bows The string is of separate material from the bearer

311.121 Mono-heterochord musical bows The bow has one heterochord string only

311.121.1 Without resonator NB If a separate, unattached resonator is used, the specimen belongs to 311.121.21. The human mouth is not to be taken into account as a resonator

311.121.11 Without tuning noose *Africa* (*ganza, samuius, to*)

311.121.12 With tuning noose A fibre noose is passed round the string, dividing it into two sections *South-equatorial Africa* (*n'kungo, uta*)

311.121.2 With resonator

311.121.21 With independent resonator *Borneo* (*busoi*)

311.121.22 With resonator attached

311.121.221 Without tuning noose *S. Africa* (*hade, thomo*)

311.121.222 With tuning noose *S. Africa, Madagascar* (*gubo, hungo, bobre*)

311.122 Poly-heterochord musical bows The bow has several heterochord strings

311.122.1 Without tuning noose *Oceania* (*kalove*)

311.122.2 With tuning noose *Oceania* (*pagolo*)

311.2 Stick zithers The string carrier is rigid

311.21 Musical bow cum stick The string bearer has one flexible, curved end. NB Stick zithers with both ends flexible and curved, like the Basuto bow, are counted as musical bows *India*

311.22 (True) stick zithers NB Round sticks which happen to be hollow by chance do not belong on this account to the tube zithers, but are round-bar zithers; however, instruments in which a tubular cavity is employed as a true resonator, like the modern Mexican *harpa*, are tube zithers

311.221 With one resonator gourd *India* (*tuila*), *Celebes* (*suleppe*)

311.222 With several resonator gourds *India* (*vina*)

312 Tube zithers The string bearer is a vaulted surface

312.1 Whole-tube zithers The string carrier is a complete tube

312.11 Idiochord (true) tube zithers *Africa and Indonesia* (*gonra, togo, valiha*)

312.12 Heterochord (true) tube zithers

312.121 Without extra resonator *S.E. Asia* (*alligator*)

312.122 With extra resonator An internode length of bamboo is placed inside a palm leaf tied in the shape of a bowl *Timor*

312.2 Half-tube zithers The strings are stretched along the convex surface of a gutter

312.21 Idiochord half-tube zithers *Flores*

312.22 Heterochord half-tube zithers *E. Asia (k'in, koto)*

313 Raft zithers The string bearer is composed of canes tied together in the manner of a raft

313.1 Idiochord raft zithers *India, Upper Guinea, Central Congo*

313.2 Heterochord raft zithers *N. Nyasa region*

314 Board zithers The string bearer is a board; the ground too is to be counted as such

314.1 True board zithers The plane of the strings is parallel with that of the string bearer

314.11 Without resonator *Borneo*

314.12 With resonator

314.121 With resonator bowl The resonator is a fruit shell or similar object, or an artificially carved equivalent *Nyasa region*

314.122 With resonator box (box zither) The resonator is made from slats *Zither, Hackbrett, pianoforte*

314.2 Board zither variations The plane of the strings is at right angles to the string bearer

314.21 Ground zithers The ground is the string bearer; there is only one string *Malacca, Madagascar*

314.22 Harp zithers A board serves as string bearer; there are several strings and a notched bridge *Borneo*

315 Trough zithers The strings are stretched across the mouth of a trough *Tanganyika*

315.1 Without resonator

315.2 With resonator The trough has a gourd or a similar object attached to it

316 Frame zithers The strings are stretched across an open frame

316.1 Without resonator *Perhaps amongst medieval psalteries*

316.2 With resonator *W. Africa, amongst the Kru (kani)*

32 Composite chordophones A string bearer and a resonator are organically united and cannot be separated without destroying the instrument

321 Lutes The plane of the strings runs parallel with the sound-table

321.1 Bow lutes [*pluriarc*] Each string has its own flexible carrier *Africa (akam, kalangu, wambi)*

321.2 Yoke lutes or lyres The strings are attached to a yoke which lies in the same plane as the sound-table and consists of two arms and a cross-bar

321.21 Bowl lyres A natural or carved-out bowl serves as the resonator *Lyra, E. African lyre*

321.22 Box lyres A built-up wooden box serves as the resonator *Cithara, crwth*

321.3 Handle lutes The string bearer is a plain handle. Subsidiary necks, as e.g. in the Indian *prasarini vina* are disregarded, as are also lutes with strings distributed over several necks, like

the *harpolyre*, and those like the Lyre-guitars, in which the yoke is merely ornamental

321.31 Spike lutes The handle passes diametrically through the resonator

321.311 Spike bowl lutes The resonator consists of a natural or carved-out bowl *Persia, India, Indonesia*

321.312 Spike box lutes or spike guitars The resonator is built up from wood *Egypt (rebab)*

321.313 Spike tube lutes The handle passes diametrically through the walls of a tube *China, Indochina*

321.32 Necked lutes The handle is attached to or carved from the resonator, like a neck

321.321 Necked bowl lutes *Mandoline, theorbo, balalaika*

321.322 Necked box lutes or necked guitars NB Lutes whose body is built up in the shape of a bowl are classified as bowl lutes *Violin, viol, guitar*

322 Harps The plane of the strings lies at right angles to the sound-table; a line joining the lower ends of the strings would point towards the neck

322.1 Open harps The harp has no pillar

322.11 Arched harps The neck curves away from the resonator *Burma and Africa*

322.12 Angular harps The neck makes a sharp angle with the resonator *Assyria, Ancient Egypt, Ancient Korea*

322.2 Frame harps The harp has a pillar

322.21 Without tuning action *All medieval harps*

322.211 Diatonic frame harps

322.212 Chromatic frame harps

322.212.1 With the strings in one plane *Most of the older chromatic harps*

322.212.2 With the strings in two planes crossing one another *The Lyon chromatic harp*

322.22 With tuning action The strings can be shortened by mechanical action

322.221 With manual action The tuning can be altered by hand-levers *Hook harp, dital harp, harpinella*

322.222 With pedal action The tuning can be altered by pedals

323 Harp lutes The plane of the strings lies at right angles to the sound-table; a line joining the lower ends of the strings would be perpendicular to the neck. Notched bridge *W. Africa (kasso, etc.)*

Suffixes for use with any division of this class (chordophones):

–4 sounded by hammers or beaters

–5 sounded with the bare fingers

–6 sounded by plectrum

–7 sounded by bowing

–71 with a bow

–72 by a wheel
–73 by a ribbon [*Band*]
–8 with keyboard
–9 with mechanical drive

4 AEROPHONES The air itself is the vibrator in the primary sense
41 Free aerophones The vibrating air is not confined by the instrument
411 Displacement free aerophones The air-stream meets a sharp edge, or a sharp edge is moved through the air. In either case, according to more recent views, a periodic displacement of air occurs to alternate flanks of the edge *Whip, sword-blade*
412 Interruptive free aerophones The air-stream is interrupted periodically
412.1 Idiophonic interruptive aerophones or reeds The air-stream is directed against a lamella, setting it in periodic vibration to interrupt the stream intermittently. In this group also belong reeds with a 'cover', i.e. a tube in which the air vibrates only in a secondary sense, not producing the sound but simply adding roundness and timbre to the sound made by the reed's vibration; generally recognizable by the absence of fingerholes *Organ reed stops*
412.11 Concussion reeds Two lamellae make a gap which closes periodically during their vibration *A split grass-blade*
412.12 Percussion reeds A single lamella strikes against a frame
412.121 Individual percussion reeds *Brit. Columbia*
412.122 Sets of percussion reeds *The earlier reed stops of organs*
412.13 Free reeds The lamella vibrates through a closely-fitting slot
412.131 (Individual) free reeds *Single-note motor horn*
412.132 Sets of free reeds NB In instruments like the Chinese *sheng* the fingerholes do not serve to modify the pitch and are therefore not equivalent to the fingerholes of other pipes *Reed organ, mouthorgan, accordion*
412.14 Ribbon reeds The air-stream is directed against the edge of a stretched band or ribbon. The acoustics of this process has not yet been studied *Brit. Columbia*
412.2 Non-idiophonic interruptive instruments The interruptive agent is not a reed
412.21 Rotating aerophones The interruptive agent rotates in its own plane *Sirens*
412.22 Whirling aerophones The interruptive agent turns on its axis *Bull-roarer, whirring disc, ventilating fan*
413 Plosive aerophones The air is made to vibrate by a single density stimulus condensation shock *Pop guns*

42 Wind instruments proper The vibrating air is confined within the instrument itself

421 Edge instruments or flutes A narrow stream of air is directed against an edge

421.1 Flutes without duct The player himself creates a ribbon-shaped stream of air with his lips

421.11 End-blown flutes The player blows against the sharp rim at the upper open end of a tube

421.111 (Single) end-blown flutes

421.111.1 Open single end-blown flutes The lower end of the flute is open

421.111.11 Without fingerholes *Bengal*

421.111.12 With fingerholes *Almost world-wide*

421.111.2 Stopped single end-blown flutes The lower end of the flute is closed

421.111.21 Without fingerholes *The bore of a key*

421.111.22 With fingerholes *Especially New Guinea*

421.112 Sets of end-blown flutes or panpipes Several end-blown flutes of different pitch are combined to form a single instrument

421.112 Open panpipes

421.112.11 Open (raft) panpipes The pipes are tied together in the form of a board, or they are made by drilling tubes in a board

China

421.112.2 Open bundle (pan-) pipes The pipes are tied together in a round bundle

Solomon Is., New Britain, New Ireland, Admiralty Is.

421.112.2 Stopped panpipes *Europe, S. America*

421.112.3 Mixed open and stopped panpipes *Solomon Is., S. America*

421.12 Side-blown flutes The player blows against the sharp rim of a hole in the side of the tube

421.121 (Single) side-blown flutes

421.121.1 Open side-blown flutes

421.121.11 Without fingerholes *S.W. Timor*

421.121.12 With fingerholes *European flute*

421.121.2 Partly-stopped side-blown flutes The lower end of the tube is a natural node of the pipe pierced by a small hole

N.W. Borneo

421.121.3 Stopped side-blown flutes

421.121.31 Without fingerholes

421.121.311 With fixed stopped lower end *Apparently non-existent*

421.121.312 With adjustable stopped lower end (piston flutes)

Malacca, New Guinea

421.121.32 With fingerholes *E. Bengal, Malacca*

421.122 Sets of side-blown flutes

421.122.1 Sets of open side-blown flutes *Chamber flute orum*

–72 by a wheel
–73 by a ribbon [*Band*]
–8 with keyboard
–9 with mechanical drive

4 AEROPHONES The air itself is the vibrator in the primary sense
41 Free aerophones The vibrating air is not confined by the instrument
411 Displacement free aerophones The air-stream meets a sharp edge, or a sharp edge is moved through the air. In either case, according to more recent views, a periodic displacement of air occurs to alternate flanks of the edge *Whip, sword-blade*
412 Interruptive free aerophones The air-stream is interrupted periodically
412.1 Idiophonic interruptive aerophones or reeds The air-stream is directed against a lamella, setting it in periodic vibration to interrupt the stream intermittently. In this group also belong reeds with a 'cover', i.e. a tube in which the air vibrates only in a secondary sense, not producing the sound but simply adding roundness and timbre to the sound made by the reed's vibration; generally recognizable by the absence of fingerholes *Organ reed stops*
412.11 Concussion reeds Two lamellae make a gap which closes periodically during their vibration *A split grass-blade*
412.12 Percussion reeds A single lamella strikes against a frame
412.121 Individual percussion reeds *Brit. Columbia*
412.122 Sets of percussion reeds *The earlier reed stops of organs*
412.13 Free reeds The lamella vibrates through a closely-fitting slot
412.131 (Individual) free reeds *Single-note motor horn*
412.132 Sets of free reeds NB In instruments like the Chinese *sheng* the fingerholes do not serve to modify the pitch and are therefore not equivalent to the fingerholes of other pipes *Reed organ, mouthorgan, accordion*
412.14 Ribbon reeds The air-stream is directed against the edge of a stretched band or ribbon. The acoustics of this process has not yet been studied *Brit. Columbia*
412.2 Non-idiophonic interruptive instruments The interruptive agent is not a reed
412.21 Rotating aerophones The interruptive agent rotates in its own plane *Sirens*
412.22 Whirling aerophones The interruptive agent turns on its axis *Bull-roarer, whirring disc, ventilating fan*
413 Plosive aerophones The air is made to vibrate by a single density stimulus condensation shock *Pop guns*

42 Wind instruments proper The vibrating air is confined within the instrument itself

421 Edge instruments or flutes A narrow stream of air is directed against an edge

421.1 Flutes without duct The player himself creates a ribbon-shaped stream of air with his lips

421.11 End-blown flutes The player blows against the sharp rim at the upper open end of a tube

421.111 (Single) end-blown flutes

421.111.1 Open single end-blown flutes The lower end of the flute is open

421.111.11 Without fingerholes *Bengal*

421.111.12 With fingerholes *Almost world-wide*

421.111.2 Stopped single end-blown flutes The lower end of the flute is closed

421.111.21 Without fingerholes *The bore of a key*

421.111.22 With fingerholes *Especially New Guinea*

421.112 Sets of end-blown flutes or panpipes Several end-blown flutes of different pitch are combined to form a single instrument

421.112 Open panpipes

421.112.11 Open (raft) panpipes The pipes are tied together in the form of a board, or they are made by drilling tubes in a board

China

421.112.2 Open bundle (pan-) pipes The pipes are tied together in a round bundle

Solomon Is., New Britain, New Ireland, Admiralty Is.

421.112.2 Stopped panpipes *Europe, S. America*

421.112.3 Mixed open and stopped panpipes *Solomon Is., S. America*

421.12 Side-blown flutes The player blows against the sharp rim of a hole in the side of the tube

421.121 (Single) side-blown flutes

421.121.1 Open side-blown flutes

421.121.11 Without fingerholes *S.W. Timor*

421.121.12 With fingerholes *European flute*

421.121.2 Partly-stopped side-blown flutes The lower end of the tube is a natural node of the pipe pierced by a small hole

N.W. Borneo

421.121.3 Stopped side-blown flutes

421.121.31 Without fingerholes

421.121.311 With fixed stopped lower end *Apparently non-existent*

421.121.312 With adjustable stopped lower end (piston flutes)

Malacca, New Guinea

421.121.32 With fingerholes *E. Bengal, Malacca*

421.122 Sets of side-blown flutes

421.122.1 Sets of open side-blown flutes *Chamber flute orum*

421.122.2. Sets of stopped side-blown flutes
N.W. Brazil (among the Siusi)

421.13 Vessel flutes (without distinct beak) The body of the pipe is not tubular but vessel-shaped
Brazil (Karaja), Lower Congo (Bafiote)

421.2 Flutes with duct or duct flutes A narrow duct directs the air-stream against the sharp edge of a lateral orifice

421.21 Flutes with external duct The duct is outside the wall of the flute; this group includes flutes with the duct chamfered in the wall under a ring-like sleeve and other similar arrangements

421.211 (Single) flutes with external duct
421.211.1 Open flutes with external duct
421.211.11 Without fingerholes *China, Borneo*
421.211.12 With fingerholes *Indonesia*
421.211.2 Partly-stopped flutes with external duct *Malacca*
421.211.3 Stopped flutes with external duct
421.212 Sets of flutes with external duct *Tibet*

421.22 Flutes with internal duct The duct is inside the tube. This group includes flutes with the duct formed by an internal baffle (natural node, block of resin) and an exterior tied-on cover (cane, wood, hide)

421.221 (Single) flutes with internal duct
421.221.1 Open flutes with internal duct
421.221.11 Without fingerholes *European signalling whistle*
421.221.12 With fingerholes *Recorder*
421.221.2 Partly-stopped flute with internal duct *India and Indonesia*
421.221.3 Stopped flutes with internal duct
421.221.31 Without fingerholes
421.221.311 With fixed stopped lower end *European signalling whistle*
421.221.312 With adjustable stopped lower end
Piston pipes [swannee whistle]
421.221.4 Vessel flutes with duct
421.221.41 Without fingerholes
Zoomorphic pottery whistles (Europe, Asia)
421.221.42 With fingerholes *Ocarina*
421.222 Sets of flutes with internal duct
421.222.1 Sets of open flutes with internal duct
421.222.11 Without fingerholes *Open flue stops of the organ*
421.222.12 With fingerholes *Double flageolet*
421.222.2 Sets of partly-stopped flutes with internal duct
Rohrflöte stops of the organ
421.222.3 Sets of stopped flutes with internal duct
Stopped flue stops of the organ

422 Reedpipes The air-stream has, through means of two lamellae placed at the head of the instrument, intermittent access to the column of air which is to be made to vibrate

422.1 Oboes The pipe has a [double] reed of concussion lamellae (usually a flattened stem)

422.11 (Single) oboes

422.111 With cylindrical bore

422.111.1 Without fingerholes *Brit. Columbia*

422.111.2 With fingerholes *Aulos, crumhorn*

422.112 With conical bore *European oboe*

422.12 Sets of oboes

422.121 With cylindrical bore *Double aulos*

422.122 With conical bore *India*

422.2 Clarinets The pipe has a [single] 'reed' consisting of a percussion lamella

422.21 (Single) clarinets

422.211 With cylindrical bore

422.211.1 Without fingerholes *Brit. Columbia*

422.211.2 With fingerholes *European clarinet*

422.212 With conical bore *Saxophone*

422.22 Sets of clarinets *Egypt (zummara)*

422.3 Reedpipes with free reeds The reed vibrates through [at] a closely-fitted frame. There must be fingerholes, otherwise the instrument belongs to the free reeds 412.13 *S.E. Asia*

422.31 Single pipes with free reed

422.32 Double pipes with free reeds

423 Trumpets The air-stream passes through the player's vibrating lips, so gaining intermittant access to the air column which is to be made to vibrate

423.1 Natural trumpets Without extra devices to alter pitch

423.11 Conches A conch shell serves as trumpet

423.111 End-blown

423.111.1 Without mouthpiece *India*

423.111.2 With mouthpiece *Japan (rappakai)*

423.112 Side-blown *Oceania*

423.12 Tubular trumpets

423.121 End-blown grumpets The mouth-hole faces the axis of the trumpet

423.121.1 End-blown straight trumpets The tube is neither curved nor folded

423.121.11 Without mouthpiece *Some alphorns*

423.121.12 With mouthpiece *Almost world-wide*

423.121.2 End-blown horns The tube is curved or folded

423.121.21 Without mouthpiece *Asia*

423.121.22 With mouthpiece *Lurs*

423.122 Side-blown trumpets The embouchure is in the side of the tube
423.122.1 Side-blown straight trumpets *S. America*
423.122.2 Side-blown horns *Africa*
423.2 Chromatic trumpets With extra devices to modify the pitch
423.21 Trumpets with fingerholes *Cornetti, key bugles*
423.22 Slide trumpets The tube can be lengthened by extending a telescopic section of the instrument *European trombone*
423.23 Trumpets with valves The tube is lengthened or shortened by connecting or disconnecting auxiliary lengths of tube *Europe*
423.231 Valve bugles The tube is conical throughout
423.232 Valve horns The tube is predominantly conical
423.233 Valve trumpets The tube is predominantly cylindrical

Suffixes for use with any division of this class (aerophones):
–6 with air reservoir
–61 with rigid air reservoir
–62 with flexible air reservoir
–7 with fingerhole stopping
–71 with keys
–72 with *Bandmechanik* [presumably a perforated roll or ribbon]
–8 with keyboard
–9 with mechanical drive

TRANSLATORS' GLOSSARY

SHOWING CERTAIN TERMS EMPLOYED AND THEIR EQUIVALENTS IN THE ORIGINAL

Arched harps, *Bogenharfen*
Barrel-shaped drums, *Fasstrommeln*
Beater, *Schlägel*
Bow-lutes, *Bogenlauten*
Bowl-, *Schalen-*
Box zither, *Kastenzither*
Clack idiophone [cf. Sachs's *Knackholz*], *Cricri*
Clapper bells, *Klöppelglocken*
Clappers, *Klappern*
Cog rattles [Ratchet rattles], *Ratschen*
Conches, *Schneckentrompeten*
Concussion, *Gegenschlag-*
Conical drums, *Konustrommeln*
Double conical, *Doppelkonus-*
'Cover' (in interruptive aerophones, 412.1), '*Ausfatz*'
Cylindrical drums, *Zylindertrommeln*
Dish-shaped, *Schalenformig*
Displacement aerophone, *Ablenkungsaerophone*
Duct, *Kernspalte*
– flutes with external duct, *Aussenspaltflöten*
– flutes with internal duct, *Innenspaltflöten*

Edge instruments, *Schneideninstrumente*
End-blown (in conches), *mit endständigen Mundloch*
– flutes, *Längsflöten*
– tubular trumpets, *Längstrompeten*
Free reeds, *Durchschlagzungen*
Free-reed pipes, *Durchschlagzungen-Schalmeien*
Friction, *Reib-, Reibung*
Friction drums with fixed stick, *Fesselstab-Reibtrommeln*
– semifixed stick, *Halbfreistab-Reibtr.*
– cord, *Schnur-Reibtrommeln*
– twirling stick, *Geschwungene Schnur-Reibtr.*
Goblet-shaped, *Becher-*
Ground zithers, *Erdzithern*
Guimbarde, *Maultrommel*
Handle lutes, *Stiellauten*
Hanging bells, *Hängeglocken*
Harp-bow, *Harfebogen*
Individual, *selbständige*
Interruptive aerophone, *Unterbrechungsaerophone*
Kazoos, *Mirlitons*
Kettle gongs, *Kesselgongs*
Lamella, *Zunge, Lamella*
Musical-bow-cum-stick, *Musikbogenstäbe*
Necked lutes, *Halslauten*
Noose: tuning noose, *Stimmschlinge*
Notched musical bow, *Kerb-Musikbogen*
Open harps, *Bügelharfen*
Pellet bells, *Schellen*
Pendant rattles, *Pendelrasseln*
Percussion, *Aufschlag-*
Piston flutes, *Stempelflöten*
Plaques, *Platten*
Plosive aerophones, *Explosiv-aerophone*
Plucked, *Zupf-*
Rattle, *Rassel*
Reedpipes, *Schalmeien*
Resting bells, *Standglocken*
Ribbon reeds, *Bandzungen*
Set of, *-spiele*
Shaken idiophones, *Schüttel-Idiophone*
Side-blown (in conch), *mit seitenständigen Mundloch*
– flutes, *Querflöten*
Singing membrane, *Ansingtrommeln*
Siren, *Lochsirene, Wellensirene*
Slit drums, *Holztrommeln*
Spike lutes, *Spiesslauten*
Split idiophones, *Reiss-Idiophone*
Stationary (in friction drums), *stehende*
Stick, *Stab-*
Sticks, *Stäbe*
Stick zithers, *Musikstäbe*
Stopped (in flutes), *gedackt*
Stopped lower end (in flutes), *Mündungsboden*
Straight trumpets: end-blown, *Längstuben*
– side-blown, *Quertuben*
Striker, internal striker (in bells), *Klöppel*
Struck idiophones, *Schlag-Idiophone*
String bearer, *Saitenträger*
Strung rattles, *Schnurrasseln*
Suspension rattles, *Reihenrasseln*
Trough zithers, *Schalenzithern*
Valve bugles, *Signalhörner*
– horns, *Waldhörner*
– trumpets, *Trompeten*
Vertex, *Scheitel*
Vessel, *Gefäss-*
Whole-tube (in zithers), *Vollröhren*

For French terminology see André Schaeffner's section *Adaptation française de la classification des Professeurs E.M.v.Hornbostel et C.Sachs* in Encyclopédie Française Vol.xvi, 1935, pp. 16'36-15/16.

THURSTON DART

Ornament Signs in Jacobean Music for Lute and Viol

THE earliest English table of ornament signs and their interpretations was printed by John Playford in 1654, in the first edition of what was later to become his best-selling *Introduction to the Skill of Music*. Though Playford omitted to name the author of the table, his oversight was remedied by Christopher Simpson at p. 12 of *The Division-Violist* (1659), where Playford's table is reproduced in its entirety with the note 'For these, I am obliged to the ever famous Charles Colman Doctor in Musick'. Some of Coleman's signs appear to derive from French lute-music, as Robert Donington has pointed out in his far-ranging article 'Ornaments' in the current edition of Grove's *Dictionary*. Others are found only in sources associated with such musicians as Jenkins, Coleman and Simpson himself, and they may well have been devised by one or other of these men, as a single-handed attempt at codification.

Useful though Coleman's table is, it is not very helpful for Jacobean music. Copyists of this earlier time seem to have made almost unanimous use of a completely different system of ornament signs, best known through their appearance in the music of the virginalists. For an interpretation of the Jacobean system, Dannreuther, Dolmetsch, Donington and others have drawn attention to Edward Bevin's short table of ornament signs and their interpretations, found on f. 5 of British Museum Add. MS 31403 and probably written during the early 1630s; but of the four signs in Bevin's table, only the first—an upward sloping stroke through the tail of a note—is found in the sources of Jacobean keyboard music, which include several signs unknown to Bevin. Once again, Bevin's table looks like one man's attempt at codification, and it cannot be used as a record of established practice.

David Lumsden's researches into the sources of English lute-music (see *GSJ*, VI, pp. 14–22) have shown that only two ornament signs regularly appear in Jacobean manuscripts of music for the lute: a cross (×, +) and a sign looking rather like a sharp (♯). These signs usually appear by the side of the tablature letters they affect, but in no source

known to me is their significance explained, nor does any writer even tell us what they were called. There is a marked resemblance between these lute signs and the two signs encountered most frequently in Elizabethan and Jacobean keyboard music—the single or double slanting stroke through the tail of a note—but although common sense suggests that their interpretations may have been similar, there has been no way hitherto of elucidating either system.

I have recently come across a new source of information that widens the scope of enquiry. It is to be found in a little-known manuscript now in the British Museum (Eg. 2971), a small book containing songs and music for the lyra viol, composed by Farrant, Jones, Giles, Coperario and the Italian monodists; many of the songs are very ornate, and their significance has been discussed by Vincent Duckles in a paper read to the Oxford Musicological Congress in 1955. His paper has just been printed in a revised form as 'Florid Embellishment in English Song of the Late 16th and Early 17th Centuries' (*Annales Musicologiques*, V, pp. 329–45), to which I owe my knowledge of the Egerton manuscript. The cover of the manuscript is of vellum and it bears the name 'Rob[er]tus Downes', who may perhaps have been related to the classical scholar Andrew Downes (1549?–1628). Though the book is not dated, its hand and contents are clearly Jacobean; moreover, since on p. 72 there is a song by 'Mr Giles', the greater part of the manuscript must presumably have been completed before 1622, when Giles became a Mus.D. of Oxford. On grounds of style the manuscript is unlikely to have been begun before 1610 or so.

Pasted on to the final flyleaf of the manuscript is a scrap of paper, in Downes' hand, consisting of a table of 'Carracters for ye graces of ye violl'. The table lists seven ornament signs and their names, though unfortunately Downes did not write out their interpretations in musical notes. These seven signs are divided into two groups: four 'graces with ye hande', followed by three 'graces with ye bowe'. The bowed graces are (i) the ordinary bowing slur, which Downes calls 'traile'; (ii) a pair of dots ('thump', i.e. *pizzicato*); (iii) a short vertical wriggling line, not unlike a compressed arpeggio sign ('shake', i.e. *tremolo*, or what Mace was later to refer to as 'the Organ Shake with the Bow'). Both the slur and the pair of dots are to be found in Jacobean sources of viol music, though they are not at all common. I have not met with the tremolo sign before. The four 'graces with ye hande' are more to the present purpose, although two of the signs have been almost obliterated by damage to the paper and it is impossible to guess what they may once have been. The first sign, for a 'relish', is quite illegible; so is the last, for a 'tast' (whatever that was; perhaps an indication of

the fret to be used?). But the second and third signs are as clear as can be: ♯ 'shake', and × 'falle'.

It is tiresome that Downes did not write out the interpretations of these signs in staff notation, but his verbal identifications do at least narrow things down a bit. Coleman's table shows that in viol music 'shake' had two possible meanings, a simple vibrato ('close shake') or a fingered trill, and I think Downes is more likely to have intended the second of these. From Coleman and other sources such as Mace and Locke we learn of at least four kinds of fall: the 'back-fall', the 'fore-fall', the 'half-fall' and the 'whole-fall'. A backfall was an appoggiatura from above, shown by Coleman as a downward sloping line (or a comma) before the note. A forefall (or 'beat') was an appoggiatura from below, usually shown by an upward line before the note; a half-fall was like a forefall, except that the auxiliary note was a semitone below the principal, and its sign was the same as that for the forefall. A wholefall (Mace) or 'elevation' (Coleman) was a slide from the third below; its sign was a cross (+) above the note. Mace observes that 'The *Whole-fall*, is a *Grace*, much out of use, in *These our Days*'. Its inverted form was the 'double backfall' (a slide from the third above), for which Coleman's sign was two commas, one above the other.

Which of these is intended by Downes' laconic word 'falle'? I think the double backfall can be ruled out, since it is scarcely ever encountered in seventeenth-century sources; moreover, it is a compound ornament, and Downes is more likely to have been concerned with simple ornaments. We are left with the forefall and the backfall—in other words, appoggiaturas from below or above—and in my experience the musical context usually makes it quite clear which of the two forms is to be used at a particular point. Considerations of fingering will also play their part; but in general terms it is safe to say that if the melodic line is rising, the appoggiatura will be from below, and if it is falling, the appoggiatura will be from above.

To sum up, then, Downes' little table identifies ♯ as 'shake' (trill, inverted mordent) and × as 'fall' (appoggiatura). Though the interpretations of these terms are still somewhat uncertain, the basic resemblances between music for solo lute and music for solo viol are so great, both in style and technique, that it is safe to assume Downes' definitions apply to both instruments. The extension of his definitions to music for virginals is more hazardous, not least because of the various manners in which the virginalists' signs may be applied to their notes (above, below, through the note-head, through the stem). Cecil Clutton has made some new suggestions in his letter 'The Virginalists' Ornaments'

(*GSJ*, IX,pp. 99–100). The next line of attack may well be the unique copy of *Parthenia In-Violata* now in the New York Public Library; like *Parthenia*, it was printed from engraved plates, but an early owner altered some of the ornament signs (deletion, substitution, change of position, change of form) and added supplementary fingerings. I hope to present an analysis of these changes in another article specifically concerned with the virginalists, for the present study is no more than a note about the lute and viol.

SIBYL MARCUSE

The Instruments of the King's Library at Versailles

In 1931, André Tessier drew attention to an inventory of musical instruments kept in the King's library at Versailles. He stated that this formed an appendix to the inventory of the library proper and was dated 1780 (*Revue de Musicologie*, Vol. XV, 1931). Tessier announced his intention of publishing it, but it would seem that death prevented him from doing so.

The inventory is housed at the Archive Nationale under the call number o^1*3246, the list of instruments comprising four foolscap pages numbered 139 to 142. The transcription which follows retains the original spellings and accents, but I have capitalized the initial letters of all proper names.

CLAVECINS ET AUTRES INSTRUMENTS

No. 1er Un clavecin de Jean Ruckers, claviers de Blanchet
2 Un de Jean Dumont
3 Un de Jean Ruckers, claviers de Blanchet
4 Un de Jean Ruckers, claviers de Blanchet
5 Un de Dumont
6 Un d'André Ruckers, claviers de Blanchet
7 Un de Hans Ruckers, claviers id.
8 Un de Pascal
9 Un, sans nom d'auteur, claviers de Blanchet
10 Un de Hans Ruckers, claviers id.
11 Un, d'Antonio Vater
12 Un, de Blanchet
13 Un id.
14 Un Piano organisé
15 Un clavecin de Pascal
16 Un d'André Ruckers, claviers d'Antoine Vater
17 Un, sans nom d'auteur
18 Un de Hans Ruckers, claviers de Blanchet
19 Un de Dumont, claviers de Hemchs
20 Un Piano forte, de Beck

21 Un idem
22 Un clavecin de Hans Ruckers
23 Un d'André Ruckers
24 Un de Virbes, a plusieurs jeux
25 Un Piano forte organisé
26 Une Epinette a deux cordes
27 Un clavecin de Jacques Bourdet
28 Un clavecin de Ruckers, claviers de Vater
29 Un sabalon

Récapitulation: 23 clavecins/1 Epinette/1 Sabalon/4 Piano forte

Un grand orgue servant a la musique chapelle à Versailles
Un idem a Font.au [Fontainebleau]

Deux paires de timballes avec leurs Baguettes et couvercles de Bois pour garantir les peaux et deux Etuis.

Deux hautbois de forêt garnis en cuivre, ayant chacun trois corps, qui servent a hausser et baisser le ton, et une petite boette ou il y a douze hanches; ils sont de la facon de Bizet.

Un hautbois en Buis garni en yvoire avec clés d'argent et deux hanches dans un petit Etui. Il est de Provet.

Quatre petites fluttes traversieres de 3 corps chacune garnis de leurs clés d'argent. Elles sont de Lot.

Deux petites fluttes a Becs d'yvoire. Elles sont de Lot.

Deux fluttes traversieres en cinq corps en bois brun des Indes, avec deux clés d'argent et garnies d'argent, dans un étui forme de coffre couvert de chagrin et fermant a clé. Ces fluttes sont de Provet.

Deux fluttes a l'octave en bois d'Ebenne, garnies d'yvoire et clés d'argent a trois corps de rechange.

Six quintes ou altos, dont une de Salomon.

Deux cors de chasse qui ont été faits par Antoine Kener à Vienne en Autriche en 1762; ils ont chacun neuf piéces pour hausser et baisser le ton, ce qui forme en tout vingt piéces, qui sont renfermées dans une Boette doublée en dedans de flanelle verte et couverte en dehors de cuir noir et fermant a clé.

Un cor de chasse avec six piéces pour hausser et baisser le ton, ce qui fait sept piéces et l'embouchure en argent, le tout dans un étui comme celui cy dessus, ce cor est de Cormery.

Six paires de clarinettes en plusieurs piéces pour hausser et baisser le ton et les embouchures, le tout dans des boettes de chagrin.

Quarte contrebasses.

Deux violons.

Deux violoncelles.

Deux trompettes a coulisses avec six paires de suplements a faire les tons de fa, de mi dieze, de mi bemolle, le delaré, le cesolut, et le befacy [*sic*], le tout composant quatorze piéces renfermées dans un étui couvert de maroquin rouge et doublé en dedans de flanelle verte dans toutes les divisions des compartiments, fermant a clé, pour tous les transports dans les voyages.

ADDITIONS AFTER 1780:

1782 Un tres beau clavecin achetté à la vente de M. de Marville pour la Reine
1783 Un clavecin
1784 Un clavecin provenant de l'Opéra placé à L'Ecole de chant
7 piano forte placés idem
2 violoncelles avec leurs Etuis placés idem
2 violons et un Etui a 2 violons placés idem
1785 2 piano forte
1786 1 pianoforte pour les concerts de la Reine
1787 2 piano forte
1788 Un orgue dont le Buffet est en bois d'acajou.

NOTES

The additions of subsequent years are in the same hand as the main body of the text, and the document ends with an illegible signature. The keyboard section is really very frustrating: not a single instrument is described in any detail; not a single date is given. Consequently it is impossible to tell whether any of these instruments have survived. The high proportion of seventeenth-century harpsichords is not altogether surprising. Jean Dumont is unknown as a maker, but Nicolas Dumont was a Parisian maker of the late seventeenth century; could this be a slip of the pen: *Jean* Dumont between two *Jean* Ruckers? Pascal is of course Pascal Taskin; he was frequently referred to as 'Monsieur Pascal' by his contemporaries. Hemchs is a misspelling of Hemsch. The *sabalon* was a dulcimer; since it is included with the keyboard instruments, one wonders whether it was harpsichord-shaped, like Taskin's *Armandine* at the Paris Conservatoire Museum.

The string section is unaccountably poor and ill-balanced—merely misplaced incidentals among the winds. But the wind section itself is extremely rich in interest: two oboi da caccia with three sections for raising and lowering the pitch and twelve reeds; an oboe of boxwood by Provet, a hitherto unknown maker; small transverse flutes; small ivory recorders; transverse flutes of India wood; octave flutes of ebony; two hunting horns by Anton Kerner (senior) dated 1762—his earliest instruments recorded so far—each with nine crooks for various pitches; another with six crooks; clarinets in classical pairs; slide trumpets with six 'suplements', as they are so elegantly called, for F, E♮, E♭, D, C and B♭.

H. B. SHARP

Church Band, Dumb Organist, and Organ

THE first half of the eighteenth century is a very interesting one in the history of church instrumental music, for it saw the gradual change-over—gradual in the sense that the actual date naturally varies widely between one place and another—from the west gallery band to the organ; and with that change-over the disappearance, usually, of the west gallery itself, and the dispersal and ultimate neglect of the instruments, so few of which remain that they are now treasured objects of church history. This interesting period can be reconstructed with a fair amount of detail in the parish records of Easton-on-the-Hill, Northamptonshire. One of the band instruments, the bassoon, remains, and the successor to the band, the organ, now speaks again with its original voice, and a fine voice it is. The third survival of this period, and perhaps the most interesting of all, is the dumb organist—the half-way stage between the west gallery band and the church organist proper. Thoughtful organ builders, realizing the band was on its way out and that the consequent demand for organists could not immediately be met, cleverly produced a mechanical attachment, based on the already existing contrivance of the barrel-organ, which would depress the right keys at the right times to produce a selection of metrical psalm tunes.

It is worth while stressing the distinction between the dumb organist and the barrel-organ, as, apart from in Scholes's *Oxford Companion to Music*, and in Noel Boston, 'The Barrel-Organ' (*Trans. Ancient Monuments Society*, London, 1959), there is little lucid writing about these mechanisms. Both the barrel-organ and the dumb organist employ a barrel fitted with brass staples of certain lengths and positions which, as the barrel is revolved by the operator, actuate mechanism which eventually admits the air to the pipes. The difference is that in the barrel-organ the barrel is the only originator of music—there are no keys, and the staples move trackers connected directly to the pallets; whereas the dumb organist (Plate I) is merely an attachment imposed on the organ manuals and easily removable when the organ is to be played normally. With the dumb organist, the staples actuate trackers to depress the keys—in other words the human action is mechanized.

Two people, the organist and the organ-blower, are still required, whereas in the barrel-organ proper one operator, by turning a single handle, both filled the bellows and turned the barrel.

At Easton-on-the-Hill we have, then, the bassoon of the church band, and many references in the accounts to other instruments, the dumb organist, now happily usable again, and the organ which supplanted the band still speaking, and mechanically functioning, as it did in 1850. The churchwarden's accounts tell us of other instruments that were in use, and provide us with some interesting spellings. It is noteworthy that the first entry concerning an instrument is 1807, while from the beginning of the available records (1799) there is always the annual sum of £1 1s. od. for the 'singers feast'. At what date the instruments were first used is not clear, but as the frequency of entries concerning them noticeably increases after 1830 it is reasonable to suppose that at first the Clerk used his pitch pipe, and that instruments were thenceforth added from time to time. Alternatively, of course, word could have got round that the newer churchwardens were willing to subsidize the music to the extent of paying for running repairs, with an occasional purchase. The following are the relevant entries:

1807	Baſsoon Reparing	£2. 2s. od.
1819	Baſsoon Repareing	£2. 2s. od.
1822	Paid for Baſsoon Reeds	5s. od.
1824	Paid for Clerionets	£3. 16s. od.
1825	Paid Drakard for Baſsoon Reads &c.	8s. 6d.
1831	Reeds & Baſs-vile strings	10s. od.
1832	Baſs Vile strings	2s. 6d.
	(1834, 25 Decem$^{r.}$ paid Jackson for assisting Clarke in Singing 5s. od.)	
1836	for Baſsons Reeds	3s. od.
1838	Clarrent & Baſshon Reeds	3s. od.
1839	Paide for Reads	6s. 6d.
	(1841 Recv$^{d.}$ of Mr Morten for Book of Psalms that was no youse to Singers 10s. od.)	
1842	Clarnet Reparing	6s. od.
1843	Paid for Claronet Reeds	3s. od.
1845	A New Clarionet Purchased for the Singers in the hands of F Tyler	
1847	Mr Sharps Bill for Reeds & Paper	10s. od.

So far the old order rules. In 1848, the first year of the Rev W. H. Charlton's rectorship, enters the new, with no wasting of time. The entries seem to reflect a new attitude, besides revealing that the Rector

personally paid Holdich £150 for the organ. Whether this was the only means of introducing an organ is not known, but one can imagine that what Thomas Hardy wrote for Wessex would hold true for Northamptonshire:

'Times have changed from the times they used to be,' said Mail. . . . 'People don't care much about us now! I've been thinking, we must be almost the last left in the county of the old string players. Barrel-organs, and they next door to 'em that you blow wi' your foot, have come in terribly of late years.'. . .

'More's the pity,' replied another. 'Time was—long and merry ago now!—when not one of the varmints was to be heard of; but it served some of the choir's right. They should have stuck to strings as we did, and keep out clar'nets, and done away with serpents. If you'd thrive in musical religion, stick to strings, says I.'. . .

' "Joseph," I said,' says Mr Penny, ' "depend upon't, if so be you have them tooting clar'nets you'll spoil the whole set-out. Clar'nets were not made for the service of Providence; you can see it by looking at 'em," I said. And what came o't? Why, my dear souls, the parson set up a barrel-organ on his own account, within two years o' the time I spoke, and the old choir went to nothing.'

To continue with the records:

1848	The Contract For the West end and Loft taking down	£47. 9s. 3d.
1850	[the first charge, unspecified, is made for organ blowing]	
1852	Paid boys for blowing Organ	13s. 6d.
1852	Rec$^{d.}$ of Tyler for A Clarionet	7s. 0d.
1852	Paid to Organist	£2. 10s. 0d.
1853	Organ Blowing	13s. 6d.
1858	Mr Smiths bill for playing the Organ 7 Sundays	£1. 8s. 0d.
1859	(also 1860, 1861, 1862) Mr Pitts for Tuneing the Organ	£2. 0s. 0d.

(but alas, the enthusiasm for keeping the organ in tune thereafter waned).

The dumb organist (apparently only used for two years) has two barrels. The tunes are:

1		2	
Morning Hymn	LM	Evening Hymn	LM
St Annes	CM	Hanover	PM
Mount Ephraim	LM	Bedford	CM
Old 100th	LM	St Stephens	CM
Chant		Chant Purcell	
Chant		Chant Blow	

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Chant		Chant Blow	

The versions are 'straight' ones, having none of the ornamentations that many earlier makers indulged in. The organ is built to allow for manual-only playing—i.e. the bottom octave has a 16-ft. stop and the barrel pins are able therefore to provide a 16-ft. bass. This would, of course, be helpful to the organists of the day, quite apart from the fact that eighteenth-century organs, and this one is essentially eighteenth-century in conception, were regarded as manual organs. The pedal pipes were always a buzzing concession, as contrasted with continental practice where the pedal organ was a fully developed and integral part of the whole tonal scheme. The organ itself is a fine one, with a completely satisfying build-up on the Great. Its specification is:

SWELL (tenor C)		GREAT		
Double Diapason	16	Bourdon	16	bass to all Swell
Dulciana	8	Stopt Diapason	8	& Gt. Clarabella
Stopt Diapason	8	Open Diapason	8	
Principal	4	Clarabella	8	
Fifteenth	2	Principal	4	
Hautboy	8	Twelfth	$2\frac{2}{3}$	
		Fifteenth	2	
		Tierce 17	$1\frac{3}{5}$	
		Sesquialtera 19.21	$1\frac{1}{3}$.1	
Pedal Pipes (20 notes)	16	Trumpet (prepared)	8	

It demonstrates remarkably, by contrast, the deterioration in tonal conception that came over organ building in the Victorian era, and is an instrument that deals far more satisfactorily with certain types of music than most moderately-sized organs built subsequently up to the 1930s. It might be good one day to add a trumpet, provided one to match the scheme could be found. But in fact the volume with the swell hautboy coupled (fog-horn-like though it is if played alone) is sufficient. The upper work gives a wonderful glitter, preserves a clarity, and yet gives a fullness of tone. The open sings out, completely unforced. The pedal pipes are enormous. With a careful eye on the bottom octave the organ can be played manuals only, yet with complete tonal range. The wealth of continental manual organ music, from Clérambault to Vierne, is for this organ (how one neglects this wonderful music until one is faced with a complete organ but only twenty very fat pedal pipes). The English eighteenth-century organ music, originally written for manual organs, sounds well, too.

PLATE I *Dumb Organist, Easton-on-the-Hill, Northants.*
a. with lid open; b. being played.

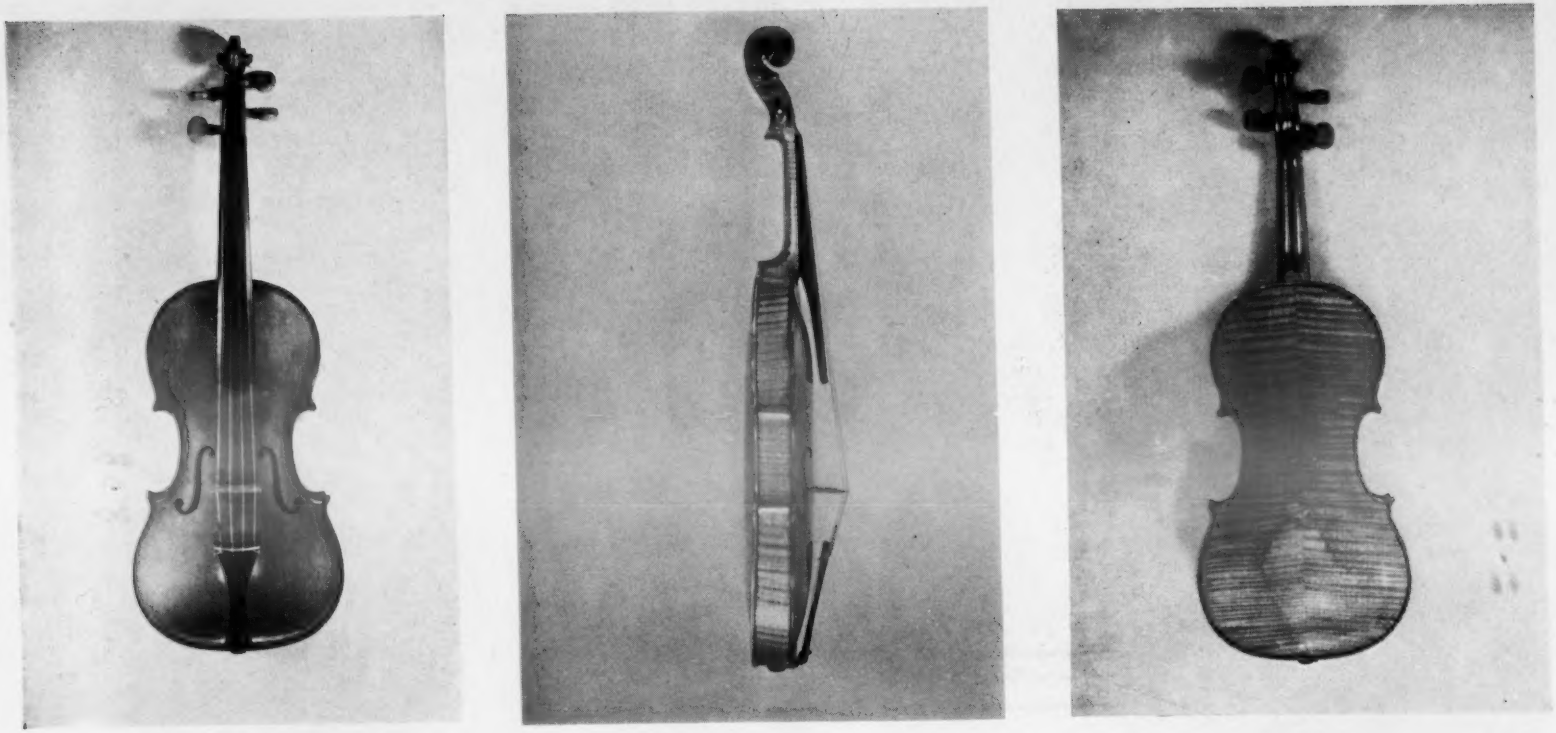
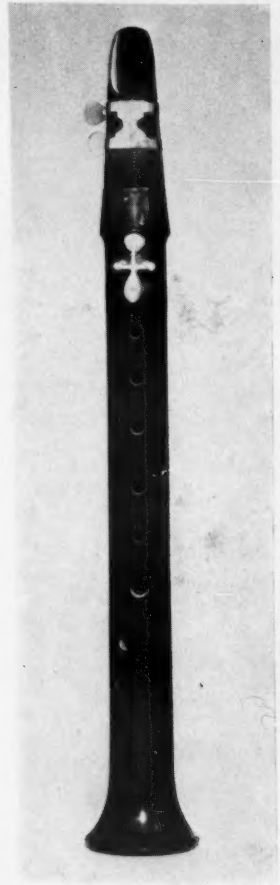


PLATE II *A Baroque Violin from Northumberland.*

a.



b.

PLATE III *a. Violin case and bow, belonging to the instrument in Plate II. b. A modern German 'Chalumeau'.*

a.

b.

PLATE IV *a.* Pumpenhorn *by Josef Hort, Vienna, c. 1925. Mouthpiece crook omitted to show arrangement of valves and valve slides.*
b. Reverse side of the same, showing valve levers and central tuning slide.
Photos: Robert Freund.

EDGAR HUNT

Some Light on the Chalumeau

In our student days we learned that the clarinet was invented by a certain Denner of Nürnberg in 1690, when he added a speaker key to an earlier instrument called the chalumeau, in order that it should overblow at the twelfth and thereby extend its compass. Later, this Denner became two Denners, J.C. the father, and J. the son, each of whom had a hand in the clarinet's development. By subtracting from the clarinet the modifications which the Denners made, one is left with a single-reed instrument with seven fingerholes, a thumb hole and one key—this then was the chalumeau.

Such a straightforward image has since then become so blurred in a fog of discussion and doubts, that one turns to the authority of Canon Galpin himself to have one's faith restored. What he writes in *A Textbook of European Musical Instruments* (p. 186) is perfectly clear: 'Throughout the Middle Ages the single-beating reed appears to have been chiefly confined to peasant folk. It is still commonly found on the hornpipes and bagpipe "chanters" of the Greek islands. . . . In Italy it appears in the popular "trumpets" made at Florentine fairs, and in France it was known as the *Chalumeau*, a word derived from the Latin *calamellus*, "a little reed", or from the Greek *calamaulos*, "a pipe of reed". As a folk instrument it has been confused with the *Chalemie*, a conical pipe with a double-beating reed. . . .'

This takes care of the folk element in the ancestry of the chalumeau. The 'popular "trumpets"' correspond to Thurston Dart's 'Mock Trumpet' (*GSJ* VI, p. 35)—a novelty instrument from the eighteenth-century toy shop. It is obvious that there was bound to be confusion about the name *Chalumeau*: anything so similar to *Schalmei* and *Shawm* was asking for trouble. But the name of a thing is what people call it; not something decided by a committee.

My interest in the chalumeau was focused some ten years ago on a Suite for three chalumeaux by Christoph Graupner (1683–1760). This had been published in Germany in an arrangement for three recorders, and Dr Walter Bergmann had managed to get hold of a copy which he lent to me.[1] I tried to see how it might be reconstructed as a trio

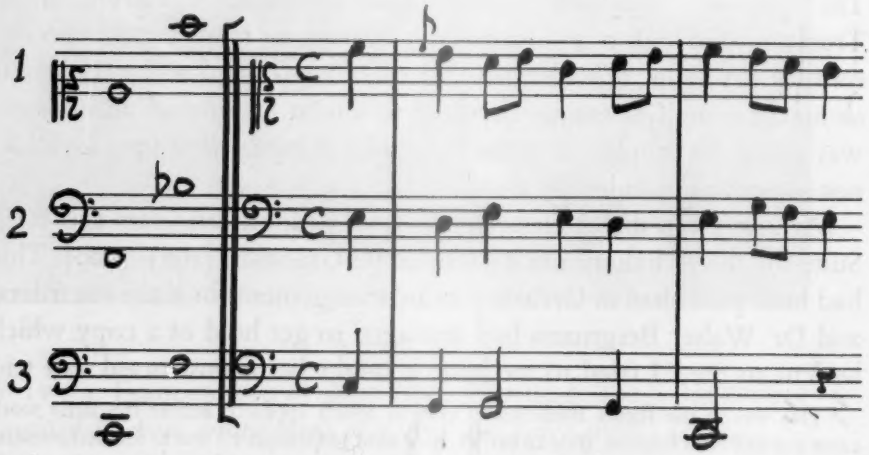
[1] This was in the Rieter Biedermann edition which appeared before the same work came out in Peters Edition. (For an earlier discussion of Graupner's works for chalumeaux, see Oskar Kroll, 'Das Chalumeau', *Zeitschrift für Musizwissenschaft*, 15 (1934), p. 374 ff. —ED.)

for three clarinets. It looked as if the whole work would fit perfectly if transposed down a fourth, as the parts would then range from *g* (lowest note in the third clarinet part) to *e'''* (highest note for clarinet I). This experiment led me to think that the Suite might have been transposed for recorders, and that the original might have been for three clarinets (chalumeaux in Gluck's sense). At this stage I was eager to see what in fact Graupner had done, and eventually obtained microfilms of the original MS (MUS 464/43 & 73, Darmstadt) through the good offices of Herr Heinz Kaestner of B. Schotts Söhne, Mainz.

When these arrived it was obvious that the parts were for three true chalumeaux of different sizes, not three equal clarinets. Also there were not one, but two Suites—the one I already knew from the recorder arrangement and another for the same instrumentation.

The fact that these Suites were for chalumeaux of different sizes led me to the paragraph on the instruments in Majer's *Museum Musicum* (1732) which mentions the discant, alto or quart chalumeau, tenor and bass:

> Man hat sonst *Discant*, *Alt*- oder *Quart-Chalumeaux*, wie auch *Tenor*- und *Bass*-Chalumeaux, theils mit dem Französischen / theils mit Teutschem Ton / und sind absonderlich *ratione* des schwehren Ansatzes / sehr hart zu blasen / die *Application* darauf *correspondi*ret meistens mit denen Flöthen; Allein deren *Ambitus* erstrecket sich nicht viel über eine *Octav*. Wird derhalben vor unnöthig erachtet / weitläufiger hievon zu melden / zumalen / wann man eine Flöthen blasen kan / wird man auch hier *praestanda praestiren Können*.

The compass of Graupner's parts and the incipit of the last movement of the second Suite are as follows (Ex. 1):

From this it will be seen that each part has a range of an eleventh.

Scoring out a few bars like this gave the appearance of a trio for one soprano and two growlers until I remembered the convention by which composers sometimes wrote their clarinet parts with the chalumeau register in the bass clef an octave lower than the actual pitch (e.g. Mozart's Adagio for two clarinets and three basset-horns, K.411, where the third basset-horn part is written in this way). Putting the bass-clef parts up an octave brings the music to a more satisfactory proportion which probably represents the actual pitch of the parts: 1st, *c'* to *f''*; 2nd, *f* to *b'*♭; 3rd, *c* to *f'*.

About five years ago a friend, knowing my interest in the chalumeau, brought back for me a little instrument from one of the Leipzig Trade Fairs. This (Plate III) was about 13½ in. long, with a small clarinet mouthpiece, seven fingerholes and one key—obviously a modern version of the chalumeau. At the time I did not pay very much attention to it, as I thought the upper notes were too out-of-tune for it to be of any use; but when I tried out the first chalumeau part of Graupner's Suites on it I soon found that a simple cross-fingering provided me with the necessary eleventh, and that the instrument was reasonably well tuned if the right fingerings were used.

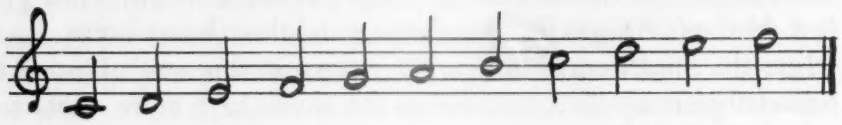
Galpin writes of the instrument having a range from *f* to *a'*: Majer's paragraph is as follows:

§5. *Chalumeaú, pl. Chalumeaux, gall. Fistula partoritia lat.* eine Schallmey / Schäfer-Pfeiffe; weil sie mehrentheils aus Rohr (so *Calamus* heisset) gemacht ist. Nebst dieser Bedeutung wird auch die an einem Dudelsack befindliche Pfeiffe: Ferner ein kleines Blas-*instrument*, so 7. Löcher hat / und vom *f*[2] bis ins zwey gestrichene *a gehet* / also genennet. Weiter ein kleines aus Buchs-Baum verfertigtes Blas-*instrument* / so 7. Löcher oben beym Ansatz / zwo meszinge Klappen / auch bey der untern noch ein *à partes* Loch hat / und vom ein gestrichenen *f* bis ins zwey gestrichene *a* und *b*, auch wohl bis ins zwey gestrichene *h* und drey gestrichene *c* gehet.

I am quoting Majer again as I think he generally knew what he was writing about. The paragraph quoted earlier, about the different members of the family, follows the above as §6. On another page he gives the fingerings for the recorder right up to the very high notes. He slips up, however, over the clarinet, which, according to his fingerings, overblows at the eleventh! (I think he has become confused, trying to fit in both *b* and *h* on an instrument without the low E key.)

[2] Is this a misprint for *ein gestrichenen f*, or are all the other notes described an octave too high?

My modern chalumeau has the following range and fingerings (Ex. 2):



LEFT HAND											
Key	I	I	I	I	I	I	I	I	I	I	I
Thumb	●	●	●	●	●	●	●	●	●	○	○
1st finger	●	●	●	●	●	●	●	○	○	○	○
2nd finger	●	●	●	●	●	●	○	●	●	○	○
3rd finger	●	●	●	●	●	○	○	○	○	○	○
RIGHT HAND											
1st finger	●	●	●	●	○	○	○	○	○	○	○
2nd finger	●	●	●	○	○	○	○	○	○	○	○
3rd finger	●	●	○	○	○	○	○	○	○	○	○
4th finger	●	○	○	○	○	○	○	○	○	○	○

This suffices for the first part in the Graupner Suites; and I am at the moment constructing similar instruments in appropriate sizes for the two other parts. The next question is: Are the second and third parts to be regarded as for alto and tenor chalumeaux, or for tenor and bass? I am inclined to think the latter would be correct, and that the members of Majer's family were discant in C (like my modern one), quart or alto in G, tenor in F (like the chalumeau register of a clarinet in C—Majer describes his clarinet as going 'von dem *Tenor f.* bis zum 2. gestrichenen *a.* auch zuweilen ins 3. gestrichene *c.*') and bass in C, an octave below the discant. In this case Graupner does not use the quart or alto member of the family. The tenor of the family corresponds to the one referred to by Galpin as the prototype of the clarinet.

Graupner's two Suites will shortly be published in my transposed arrangement for three equal clarinets (by Schott & Co., London). It would have been putting the clock back to confine players to the chalumeau registers of, say, clarinet, basset horn and bass clarinet, but anyone who has followed my argument will easily be able to reconstitute Graupner's original from this edition.

KENNETH SKEAPING

A Baroque Violin from Northumberland

THE violin, bow, and case illustrated in Plates II and III were discovered in a sale of effects near Berwick-on-Tweed in July 1956 by Mrs Daphne McDonald, of Belford, Northumberland, and they are now in her possession. The violin bears no label or other clue to the identity of its maker or the year in which it was made, but it is presumed to be of English, or perhaps Scottish origin, and to date from fairly early in the eighteenth century.

The instrument is of normal (14 in.) body length and proportions, with both belly and back in two pieces. The lower ribs are made from a single strip of wood running round the bottom end of the violin from corner to corner, and not in the more usual two pieces joined under the tailpin. The outline and smallish soundholes show Amatese influence; the arching is fairly full, with a touch of German style. The slender head, though by no means ill-conceived, is somewhat carelessly executed and has a rather clumsy rectangular patch let in at the back, behind the two lower pegs. It looks as though there had originally been an opening here, as occasionally found behind the upper pegs in old fiddle heads, where its object is to facilitate mounting the A string by giving access from behind to draw the string through the hole in the peg when the overhang of the scroll makes it difficult to get hold of the end of the string from the front. But we have no idea what purpose could have been served by such an opening behind the lower pegs.

The neck, fingerboard, and bass-bar are original, and it is fortunate that this unmodernized violin has come into the hands of an owner who appreciates the significance of its condition. The neck is set straight, in the old way, but is of modern length, measuring $4\frac{1}{2}$ in. from the chin of the scroll to the edge of the button. The measurement from under the nut to the edge of the belly is 5 in., slightly on the short side of the modern length here, while the open string length to a normally-placed bridge is $12\frac{3}{4}$ in. as against the $12\frac{7}{8}$ in. to 13 in. usually found on full-size violins with the modern-style fitting. The string rise from nut to bridge is approximately $1\frac{3}{4}$ in., whereas with the modern sloped-back neck a rise of up to 2 in. is quite commonly attained.

The ebony fingerboard is canted by the usual hollow wedge, which raises it above the straight-set neck; with the modern neck no wedge is required, the neck being set to carry the fingerboard at the correct angle. The standard length of a modern fingerboard is 10½ in.; the length of this one is 8⅞ in. and the highest note that can be stopped on it is *c‴* (ninth position). This fingerboard is just a shade wider and looks a little flatter than the modern average. The ebony nut, which may also be original, has been slightly reduced in size in the process of restoration.

The average dimensions of a modern bass-bar are: length, 10½ in.; width, ¼ in.; and depth in centre, 7/16 in. It is regretted that the exact measurements of the bass-bar of this violin are not available for quotation, but it is quite obviously a typical small bar of the period. As seen with a dental mirror inserted in the soundhole it appears to have a maximum depth of about ¼ in. and a width of about 8/16 in. With these dimensions we would expect to find a length of something near 9½ in., but of course the ends of the bar cannot be brought into sight with the glass. This very small bar allows a clear view through the soundholes.

With the exception of a rather large patch of wear at the bottom end of the back, the violin is well covered with varnish of a pleasant warm yellow colour. There is no chin mark on the belly, apart from a slight discoloration to the left of the tailpiece, and the varnish on the upper right-hand rib is quite undamaged. This condition suggests considerable use at some time, though not by players who often ventured above the first position.

When found, the violin was in poor repair, the belly having obviously been off at some time and very messily glued on again by an unskilled hand, but apart from some slight damage to the bottom left-hand edge of the belly and a worm mark on the right-hand side of the neck, the instrument was intact. It had no bridge, and the pegs, tailpin and tailpiece were nondescript—the last being of modern pattern. In 1959 the violin was restored and supplied with antique fittings by Messrs W. E. Hill & Sons, and it then remained for several months in the hands of the writer, who played fairly assiduously on it. During that time, however, no full response was forthcoming, and it is not possible here and now to pass a final judgment on the tone of this very interesting violin.

The bow, although found with the violin and quite possibly used on it, is certainly not a violin bow. Its general appearance, the size and shape of the nut, and the reeding on the lower half of the stick, indicate that it is a bass bow, intended specifically to be held under the hand in violin style. On page 49 of Joseph Roda's *Bows for Musical Instruments*

(Chicago, 1959), there is an illustration of a bow which bears a very marked resemblance to the one we are discussing. It is described as an old Scottish bow, *c.* 1800—a date which seems rather late for its type. Though the dating of antique bows is a hazardous undertaking, particularly when considering the very fluid transitional conditions which existed in the second half of the eighteenth century and up to the early years of the nineteenth, the style of both these examples suggests that a date about 1750 might well be nearer the mark.

Our bow, when found, had a fair amount of ancient hair on it, and the nut was immobilized by corrosion on the screw. This has been remedied and the bow re-haired, and it is now in excellent shape. The ivory screw-cap is cracked longitudinally—a condition very usually found in these old ivory caps—but the bow is otherwise undamaged, with the nut running firmly and easily on the stick. Both stick and nut are made of maseranjuba, also known as beefwood. The bow does not appear to have had much use. Its overall length is 28¼ in. and the free hair length is 23½ in. The hair band is $\frac{5}{16}$ in. wide at the nut and spreads to $\frac{3}{8}$ in. at the head. The open-faced nut measures $2\frac{1}{10}$ in. from the tip of the tongue to the back, and has a maximum depth of $\frac{31}{32}$ in.; the width of the face is $\frac{13}{32}$ in. The space between stick and hair at the nut is $\frac{27}{32}$ in., and behind the head $\frac{9}{16}$ in. The stick is round throughout its length, and its diameter at the heel is $\frac{13}{32}$ in., in the middle $\frac{11}{32}$ in., and behind the head $\frac{5}{32}$ in. The bow weighs 2¼ ounces, and its point of balance is found 10½ in. from the tip of the ivory screw-cap. Although not rigid, the stick is exceedingly stiff. An incised reeding of fine, closely-set parallel lines, commencing about $\frac{3}{4}$ in. above the nut, is carried along the stick for a distance of $8\frac{5}{8}$ in., where it is terminated by a double ring of dots and a line encircling the stick. This reeding, which is often seen on old violin bows, is functional as well as decorative. It helps the player to get a comfortably secure hold on the stick and it should be mentioned in passing that eighteenth-century violin players, and those violoncellists who were also using the violin grip at this time, often held their bows several inches above the nut.

The case, made of a rather common-looking softwood, is covered with brown stamped leather. Though a great part of the stamped pattern has been worn away, enough remains to give a very good idea of the handsome show this case must have made when new. But now its condition is precarious, and serious restoration work has not been considered to be a practical proposition. First-aid measures to protect it in its present state have been carried out. Opening at the lower end, the inside is lined with a kind of baize of a dull sage-green colour. There is no lining where the case narrows. There is paper finishing

round the inside edges of the case and lid to cover the bare wood, and this paper carries a blue and grey marbling pattern, considerably worn though quite a lot of it remains. There is no trace of any accommodation for strings and accessories, or of any device for securing a bow, which would seem to have been just poked in with the fiddle. The exterior shows no sign that the case was ever fitted with a handle or with metal hinges to the lid, though it has a brass lock which no longer operates, and the lid is now secured by a couple of the small hooks and eyes employed to fasten the lids of bow boxes.

Just before restoration work was put in hand, this instrument, bow and case were shown in the exhibition organized in connection with the Joint Congress of the International Association of Music Libraries and the Galpin Society at Cambridge in July 1959.

NOTE ADDED IN PROOF:

The brass-bar measurements are now available, and come quite near my guess. They are: length 9½ in.; breadth ⅛ in.; depth in centre, a bare ¼ in. The bar is a fitted one, i.e. separately made and glued in, and its deviation from the perpendicular is rather extreme at ½ in. The distance from centre line to outside edge of bar is at the upper end $\frac{13}{32}$ in. and at the lower end $\frac{15}{16}$ in.

HORACE FITZPATRICK

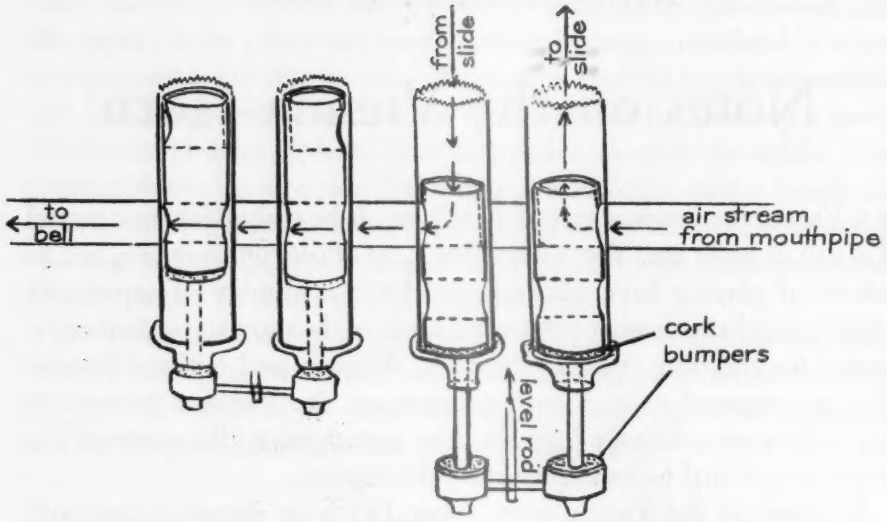
Notes on the Vienna Horn

In Vienna the original valved *Waldhorn* of the early Romantic period is still in daily use. The Vienna horn, or *Wiener Pumpenhorn*, and its school of playing have not only produced a number of superlative players, but have directly influenced some of the most significant composers for the horn, notably Brahms, Wagner, and Richard Strauss. Yet as compared to its French counterpart, the Viennese instrument has undergone relatively little studious investigation; the scope of this paper is confined to an introductory description.

In principle the Vienna horn (Plate IV) is an *Inventionshorn* with valves. The central tuning slide and the mouthpipe crooks for changing the instrument's pitch are retained (Plate IV *b*); tone quality and playing characteristics of the earlier instrument are only slightly altered. Normally played in F, the *Pumpenhorn* is a three-valve single horn which can be crooked to E, E♭, B♭ *alto*, G, and A. The F tuning is adhered to as a matter of pride as well as tone quality, and only for extreme altissimo passages will the true Viennese hornist crook to B♭.

The distinguishing mechanical feature of the instrument is its set of *Pumpenventile* (piston valves), from which it gets its name. These differ from the French piston (Périnet) valves in that the top of the valve is open and there are only two ports as against the French valve's four. This principle requires a pair of valves to serve each valve slide. The valves are joined by a cross-rod to which is hinged a long push rod operated by the finger lever, in which is housed the return spring. This system, shown in the accompanying diagram, was introduced by the inventor Uhlmann around 1830 (sources disagree as to the date), and has been in use in its original form since then.

The valve system is at once the *Pumpenhorn's* best and most objectionable feature. The flow of air into the valve slides is direct and unconstricted, resulting in a superb legato and virtually no increase in resistance on valved notes. However, the action is stiff, the valves are inclined to work slowly or not at all, and the lever stroke is quite long (1.4 cm. as against the 0.8 cm. of a rotary valve system).[1] The second valve lever lies directly on the horn's axis of balance in playing position. As a combined result the instrument exhibits an alarming tendency to rock in the hand, especially when one must deal with the third valve lever in rapid passages.



Uhlmann or Viennese piston valves in open and closed positions.

Several advantageous principles are incorporated into the horn's design. The length of tubing from the mouthpiece to the entry point of the valve mechanism is nearly half the instrument's total length, which increases the smoothness of changing from open to valved notes. On most modern German instruments this length is less than a third of that of the total tubing. There is very little of the cross-bracing employed in double horn construction, entailing braces whose feet are soldered and thus dampen half the tubing's circumference. Structural rigidity is obtained instead by tacking the tubing lengthwise upon itself with a thin line of solder, leaving the tubing free to vibrate virtually unimpaired. The valve slides open *upwards* from the main tube, considerably reducing the amount of water which collects in the slides during playing (Plate IV *a*).

An important factor in the horn's tone is the remarkably soft gold brass employed. Yellow brass is very rarely used, and if so it has a high copper content. The bell is hand-hammered to shape in the old manner over a wooden form, preserving the suppleness of the metal and avoiding the tone-destroying hardening which inevitably occurs in the more commonly employed spinning process. The Viennese bell differs further from the German in that it has a generous (5 cm.) nickel silver garland which additionally softens the tone and provides seemingly unrestricted latitude for the engraver's art.[2]

To a player accustomed to a German or American horn, the Viennese instrument's flexibility, ease of response, and freedom in the high register are amazing. Its outstanding playing characteristic is the superb

Naturtechnik which affords remarkable ease in playing on the overtone partials of the open horn and all valve combinations. The staccato is crisp without a hint of the 'popping' so annoying on many American makes, and the legato is superior to that of any other horn.[3] These qualities are considerably enhanced by the traditional Viennese mouthpiece, which has a very narrow rim and a straight-sided cup some 1 cm. deeper than that of the German mouthpiece. The Viennese model is invariably made of nickel or sterling silver, another important element in producing the true *Waldhorn* tone.

In the hands of a fine Viennese player the *Pumpenhorn* has an unmistakable tone quality: soft, rich, and distinguished for a peculiar floating character which is most poetic. It has none of the matter-of-fact solidity of the German horn, or the French instrument's facile brilliance. Moreover, each register has its own quality, a basically eighteenth-century idea.

The accuracy demanded of the modern hornist is virtually impossible to achieve on the Vienna horn. Its very advantages bring its worst features, and it is unfortunately prone to those breaks and gurgles which plague every horn player's existence. For anyone not schooled exclusively in the Viennese tradition it is unusable. Even in Vienna the *Pumpenhorn* is dying out. Although it is still taught in the State Academy, young players change to the double or B♭ horn more or less on graduation. Because of the intense demands upon physical strength and concentration imposed by the single F horn, the average Viennese first hornist's playing life is ten years shorter than his single-B♭-playing colleagues in Berlin.[4] Owing to the costly hand processes required in its manufacture, the Vienna horn is now made only to special order. It is indeed regrettable that the current demand for precision at the expense of musical quality has brought about the decline of another fine instrumental tradition.

NOTES

[1] All comparative measurements were taken from a *Pumpenhorn* belonging to Mr James Diack, made by the *Erster Wiener Produktionsgenossenschaft*, Vienna; and my own double horn by C. F. Schmidt, Berlin.

[2] The lavish engraving on these garlands is often useful in ascertaining the date of an instrument's manufacture. The maker's address is always engraved under his name, furnishing valuable biographical information.

[3] For an excellent example of the Vienna horn's legato the reader is referred to the horn solo toward the end of 'Abendrot' in the Vienna Philharmonic recording of the Four Last Songs of Richard Strauss, Decca LW 5056.

[4] This information was furnished by Rolf Lind, solo hornist of the North German Radio Symphony in Hamburg. The statistics of this survey, conducted among ten leading Berlin and Viennese first hornists, disappeared during the war. The survey was made around 1937.

MICHAEL PRYNNE

James Talbot's Manuscript

(CHRIST CHURCH LIBRARY MUSIC MS 1187)

IV. Plucked Strings—The Lute Family

A TABLE in the manuscript which gave a classified list of the stringed instruments was published in *GSJ* III, p. 28. The present extracts cover the plucked instruments of the lute family, that is with a convex as distinct from a flat back to the body. The material is presented in the same manner as was adopted by Anthony Baines in the first number of the JOURNAL, which will, for convenience, be summarized again.

Dimensions of instruments, given in feet (f), inches (′), and lignes (eighth parts of an inch, ″) X
Tablature and Tunings ..... Y
General observations ..... Z

The original spelling has been retained, and also abbreviations apart from the ordinary contractions of 'and', 'the', 'than', 'that', 'which', etc. As in previous articles, editorial comment in the extracts from the manuscript is enclosed in square brackets. The tunings in Y and Z, written on staff and in tablature in the manuscript, are given here in letter symbols. Most of the general observations are notes and précis from Mace, Mersenne and Kircher, and these have not been reproduced except in cases where Talbot has queried some point (since these might indicate where the earlier authorities did not correspond with his own experience or with the information he was given). All notes which appear to be based upon what he was told by contemporary musicians have been reproduced verbatim.

In the manuscript, besides the table previously reproduced, Talbot gives another classification table which, as far as the lute family is concerned, runs as follows:

LUTE { *French*, *English*, *Angelique*, *Theorbo*, *Arch Lute*, *Apollon* } { French, English } { bigger, lesser }

MANDOLE { *Common* / *Arch*

COLACHON

This provides a useful order in which to re-arrange the extracts, though in fact no material about the Apollon lute occurs in the manuscript and no dimensions are given for a larger French theorbo.

LUTES

XII. FRENCH LUTE. Mr Crevecoeurs by Laux Maller (or Sellier)

	ft.	*in.*	*lignes*
From top of head bendg [bending] back to Nutt (whose width 3″) on the treble side of Plate, 3″+ on Bass side	0	10	1½
From top of Nutt to Bridge	2	3	7½
Thence to Breech	0	3	6½
Length from top of Nutt [corrected from 'Head']	2	7	6
from top of Head	3	5	7½
Length of Neck	1	1	0
Length of Plate to beginning of Points (whereof length 1′ 4″) their distance 2′ 4½″	1	0	1
Length of Nutt	0	3	2
Breadth of Plate [corrected from 'Neck'] above	0	3	⅝
['at bottom of neck' (4′ 1″) deleted] below	0	4	0
From bottom of Plate [corrected from 'neck'] to Knott	0	6	3½
Depth of Knot	0	3	1½
From Knott to Bridge	0	6	1⅝

Breadth of Bridge below 4″ above 2″
Length of Bridge between Points 5′ 5″ each Point 5″+
Breadth of Belly next neck 4′ 1″ at middle of Knot 10′ 2½″.
1′ 7″ above the Bridge 11′ 5″
Depth under Knott 5′ 5″
It has 9 Fretts. 11 Ribs

XI6. FRENCH LUTE. Ag.

	ft.	*in.*	*lignes*
From the top of the head to the Nutt	0	10	2
Thence to the Bridge	2	3	0
Thence to breech	0	3	0
			+3 Nutt
Whole Length from Head to Breech	3	4	5

From Nutt to Breech		2	6	3
Length of Plate		0	11	6
Neck		1	0	6
Length of Nutt which carries 9 double ranks with one single 2nd and Treble (in all 20 strings)		0	3	4
Breadth of Plate	at top	0	3	1
	at bottom	0	4	2
Breadth of Nutt	Bass side	0	0	3
	Treble side	0	0	2
From the lower pt of Plate to the Knot		0	6	2
Depth of Knot		0	3	0
From the Knot to Bridge		0	6	2
[line scored through: 'From Bridge to Breech		0	3	1']
Breadth of Bridge below 4″. above 3″				
Breadth of Bridge between Points 6′. each Point 5″				
Breadth of Belly 2′ ½	next to Plate	0	5	3
	above Knot	0	11	3
	under the Bridge	0	10	3
Depth under Knott		0	5	0
It carryes 9 Fretts				

Y FRENCH LUTE. Common Tuning, (Mr Crevecoeur)

Tuning	String	1	2	3	4	5	6	7	8	9	10	11
		f′	*d′*	*aa*	*ff*	*dd*	*Aa*	*Gg*	*Ff*	*Ee*	*Dd*	*Cc*
ADCF												
G									♯F♯*f*			
♯D									♯F♯*f*			♯C♯*c*
B									♯F♯*f*			*B′B*
♯A♯F								♯G♯*g*	♯F♯*f*			♯C♯*c*
♭G♭B♭C										♭E♭*e*		
♭F										♭E♭*e*	♭D♭*d*	

French Lute common [correction for 'old'] tuning 9 clear frets.
(Mr Dupres La Tour) Crevecoeur Mr Finger.

Leut

Z [Heading] GERM. LAUTE. Lute French and English Luth

Lauto

[perhaps 'Liuto']

Figure Mers. Lat. l. 1. p. 10. Gall. l. 2. p. 40
Kirch. part I p. 476. Mace p. 32
Descript. Mers. Lat. l. 1. p. 8. Gall. l. 2. prop. 1 and 13.
Kirch. part I l. 5. cap. 2 §½.
[Shortened paraphrase of Mace.]

Q. What is the lace which is usually paper parchment sometimes silk or silver; tis glued on to join back and belly. 4.

[Paraphrase of Mace on strings.]

[References and notes from Mersenne and Kircher.]

French Lute

Its Head bending back: its Nutt carryes 20 Strings of which 9 ranks are Double, the 2d and Treble strings single. it has 9 Frets.

It carryes 11 ranks of which the 6 lowest are double (tuned 8ves) the 3 next double Unisons, the two first single = in all 20 strings: the 6 first ranks are unchangeable, the 5 last vary according to the Key. Crevecoeur.

Rule for placing the Fretts on the Neck. Divide the whole String into 9 eq[ual] pts of which $\frac{1}{9}$ = c. 2 Frett or tone maj. $\frac{3}{9}$ = h 7th = (5th) true. from h to the Nutt divide into 4 eq[ual] pts of which $\frac{1}{4}$th from h = f 5th (= 4th [? true]). These 3 the chief Frets, the rest placed by eye and ear. Crevec[oeur].

For length of Neck

Having placed markd a point for your 7th Fret (or h Fret) at what distance you please from the Bridge halve that distance for the space between h and your Nutt and cut off the rest of your Neck. Crevec[oeur].

Tablature necessary for proper choice of strings in touching which cannot be determined by notes. Id.

The present tuning introduced by Gaultier of France answers all keys better than the old of Mersenne. [Notes on strings and tuning from Mersenne.]

Q. Why so many Fretts since e seems the highest in any tablature except at the 1st string which rises to k = [. . .] which is only greater 3d to the string open: since sound of open string best. [Notes from Mersenne.]

New tuning lower than old by 3d Major (viz New ♯f Old a).

[Notes from Mersenne on tunings.]

Q. which tuning this is Mers. G. p. 88

[in tablature] ♭*B*, *D*, ♭*E*, *F*/*G*, *c*, *f*, ♭*a*, *c′*, ♭*e′*.

[It is Mersenne's New Tuning (minor).]

Belly of Lutes of Air. Ribs of Air or Yew. Neck of Plumb or Pear. Plate Ebony. Ag.

X15. ENGLISH (TWO HEADED LUTE vulgo). Ag.			*ft.*	*in.*	*lignes*
Fro top of Upper Bass head to first Nutt	2 strings		0	1	2
To 2nd	*inch*	*ligne*	0	2	6
To 3rd	0	3.	0	2	2
To 4th			0	2	1
Strings in all 23					
To great Nutt on Neck 7 double ranks one single treble	2	3.	0	1	4
Fro great Nutt to bottom of Plate			0	9	5
['? Depth of each Nutt' deleted]					
To Knott			0	5	2

Depth of Knott	0	3	0
From Knot to Bridge	0	5	5
Breadth of Bridge at top	(0	0	3)
at bottom	0	0	4+
From bottom of Bridge to bottom of Belly	0	2	6
Frets 9			

	Whole length	[not entered]	
From the top of Treble head to great Nutt	0	9	2
Length of Neck behind to Heel	0	8	4
Upper pt of Plate	0	3	0
Lower pt	0	4	0
Breadth of Belly at middle of Knot	0	8	4
at Bridge	0	9	4
Length of Bridge where strings lye	0	6	0
of Point on Bass and Treble sides	0	0	5
Depth at Middle of Knott	0	5	0
Length of upper head	0	11	0
lower head	0	9	2

Y ENGLISH TWO HEADED LUTE

A′A, C, D, E, F, G, A/dd, ff, aa, d′, f′ [no octaves are noted for bass strings other than the last].

[In B, the 8th course is ♯*F*♯*f*, the 12th *B′B*.]

English two headed lute

Mr La Tour Mr Crevecoeur

[The same tuning as above, with *B′B* as variation for 12th course.]

[Note added] Flat and Sharp tuning the same as the Fr Lute except in G♭.

English lute

Tuning	String 11	10	9	8	7	6	5	4	3	2	1
	Cc	*Dd*	*Ee*	*Ff*	*Gg*	*Aa*	*dd*	*ff*	*aa*	*d′*	*f′*
♭A ♭D ♯C ♯F											
♯G				♯*F*♯*f*							
♯D	♯*C*♯*c*			♯*F*♯*f*							
♯A ♯F	♯*C*♯*c*			♯*F*♯*f*	♯*G*♯*g*						
♭B	*B′B*			♯*F*♯*f*							
♭G ♯B ♭C			♭*E*♭*e*								
♭F		♭*D*♭*d*	♭*E*♭*e*								

[This table is confused and gives two versions, the above being the correct one.]

Z ENGLISH (OR TWO HEADED) LUTE. La Tour.

It has 4 small Nutts bearing off obliquely (as Theorboe) which carry each

two single strings viz 1 bass and its octave string [corrected from 'in all 8 strings']. Ag.

The great Nutt on the neck carryes 7 double ranks of treble one single treble in all Ranks 8 Strings 15. Ag.

Whole number of Trebles and Bass Strings=23. Ag.

The 8 Basses have their upper head lying straight as the Theorboe: the 15 Trebles have the (lower) head bearing back as the French Lute of which this seems to be an improvement. Ag.

Tuning the same with Fr Lute except 1 string lower viz AA. Basses better by different length on Nutts: it carryes one double rank of Basses below the Fr Lute viz AA. then CC etc as the Fr Lute. thus this Lute has 12 ranks whereof all but the last two are double=22 Strings. Crevecoeur.

9 Fretts.

X17. THE ANGEL-LUTE. Ag.	*ft.*	*in.*	*lignes*
From the top of the upper head to the Nutt	0	4	4
From the Nutt of the upper head to the Nutt upon the Neck (or Plate)	1	1	0
From the Nutt upon [corrected from 'on'] the Plate [corrected from 'Neck'] to the Bridge	02	2	0
From the Bridge to the Breech	0	3	0
The Length of the Instrument	3	10	4
Length of Plate	0	10	0
[deleted but marked 'stet': 'The length of the Plate and Neck'	0	10	0]
The Breadth of the Nutt on the long [corrected for 'Upper'] head carrying 6 single Str[ings]	0	1	2
The Breadth of the Nutt on the [deleted 'lower'] Plate 10 single Str[ings]	0	2	7
2+ The Length of the Plate and Neck	0	10	0
The breadth of the Plate { at the top	0	3	2
at the bottom	0	4	0
From the upper part of the Belly to the Knot	0	6	4
[deleted 'From the'] The Depth of the Knot	0	3	4
From the Knot to the Bridge	0	6	0
The length of the Bridge at the upper part on which the Strings lye	0	6	4
The length of the whole Bridge between the two Points (each Point 1')	0	8	4
The Breadth of the Belly at the middle of the Knot	0	10	3
at the Bridge	0	11	0
[deleted '2'] Length of Neck	0	9	0

Points of Plate below it on the Belly 2'

9 Frets on the Lute which decrease in size as lower

[deleted 'Lute a']

2. Depth of Instr[t] at middle of Knott 0 5 4

Y ANGELIQUE OR ANGEL LUTE. Mr Crevecoeur.
D, E, F, G, A, B, c, d, e, f, g, a, b, c′, d′, e′.

Z ANGEL LUTE

The Angel Lute is of the Pear-mould and fashioned like other Lutes from which it differs in the long head which is made twisting to carry the uppermost rank on its Nutt (consisting of [written above, 'carrying'] 6 single Bass strings) answerable to those [?] on the lower Nutt (consisting of 10 single strings [corrected from 'trebles']) in all consisting of 16 single strings. Ag.

The Angel Lute has [illegible] and long head [corrected for 'two heads'].

The Nutt on the upper head carryes 6 single Bass strings. The Nutt on the Plate carryes 10 single Treble strings in all 16 strings.

This Lute is of the Pear mould as all other Lutes and differs in the long head which is made twisting to carry the uppermost rank answerable to the strings below.

Its tuning [not given in this place].

This and all Lutes more proper for slow and grave lessons than for quick and brisk by reason of the continuance of sound when touched which may breed discord. Crevecoeur.

X12. LESSER FRENCH THEORBOE by Sellier. Mr Crevecoeurs

	ft.	*in.*	*lignes*
From top of the long Head to 1st Nutt carrying 8 single Trebles	0	5	1
Thence to 2nd Nutt on Plate carrying 6 single trebles	1	9	0
Thence to Bridge	2	5	7
Thence to Breech	0	4	1
	5	0	1
Length of Neck	1	1	5
Of Plate to beginning of Points (whose length 1′ 4½″. Distance 2′ 6″+)	1	0	6

Breadth of Plate above 3′ 1″. below 4′ 1″
Length of 1st Nutt 2′. of 2nd Nutt on Plate 1′ 7″
From bottom of Plate to Knott 7′+
Diametre of Knott 3′ 2″
From Knott to Bridge 6′ 6″
Breadth of Bridge above 2″ below 4¾″
Length of Bridge between Points 5′ 7″ (each Point 7″)
Breadth of Belly next Neck 4′ 2″. at middle of Knott 10′ 5″. above Bridge 1′ ft. 1″. Depth under Knott 4′ 6″.
Fretts 9 (or 10). Ribbs 11.

Y. LESSER FR. THEORBOE FOR LESSONS

C, D, E, F, G, A, ♭B, c | d g c′ e′ a d′ [The same tuning given for 'Lesser Theorboe Mr Crevecoeur'.]

French Theorboe

G′, A′, B′, C, D, E, F, G | A d g b e a [The same tuning given for 'Theorboe Mr Crevecoeur Dupre' with the note 'French Theorboe may have 10 Frets'.] [added] This is the same with Mersenne p. 89. Fr.

Z. The lesser Theorbo (fitt for Lessons) carryes the same number of ranks and Strings with F. Theorboe and is 4 Notes higher all the way. Crevecoeur.

Fr. single Theorboe carryes 14 single ranks whereof the lowest 8 Basses the last 6 Trebles. The 3^{d} String is the Treble, the 2^{d} a fifth lower, the 1st 4th above the 2^{d}. Crevecoeur. This fitter for Thorough Bass than Arch Lute its Trebles being neither below the voice nor Instrs in Consort as Arch Lute. nor Trebles too far distant from Basses. Crevecoeur.

[Deleted 'Fr. Theorboe has its ranks whereof 6 lowest are double tuned 8ves the 3 next'.]

X18. ENGLISH THEORBOE. Ag.	*ft.*	*in.*	*lignes*
From the top of the upper head to the first Nutt	0	4	0
To the 2nd Nutt	0	3	4
To the 3rd	0	3	3
To the 4th	0	3	0
To the 5th the Nutts oblique bearing off twds Basses	0	4	0
To the Great Nutt on the Neck	0	4	6
From the Great Nutt to bottom of Plate	1	0	3
+ From the bottom of the Plate to the Knott	0	8	4
['? Breadth of each Nutt' deleted]			
Depth of Knott	0	4	4
From the Knot to the Bridge	0	9	4
Breadth of Bridge at top	(0	0	4)
at bottom	0	0	5
From the bottom Bridge to the bottom of the Belly	0	4	1
Whole length	[not entered]		
Frets 9 or 10 on a single or double Theorboe			
['9 on double' deleted]			
Length of Neck behind to the heel	1	11	4
['Length of the Plate' deleted] Breadth of the upper Nut			
with 3 single strings	0	0	4
2nd with 2 single strings	0	0	3
3rd with 2 and 4th with 2 and 5th with 2	0	0	3
Great Nutt with 5 doubled ranks and one single Treble			
in all 22 strings	0	2	0
Upper part of Plate	0	3	3

Lower part	0	4	2
Breadth of Belly at middle of Knott	1	1	4
at Bridge	01	2	5
[corrected from	01	6	4]
Length of bridge where strings lye	0	6	4
Length of the Point on top side	0	1	4
on Treble	0	1	5
Depth at middle of Knott	0	7	0

Y. ENGLISH THEORBOE with double ranks. [On stave]
G'G, A'A, B'B, Cc, Dd, Ee, Ff, Gg | Aa, dd, gg, bb, ee, a.
Double Theorboe. [same tuning given.]

Z. The present Theorbo has 7 Basses, 6 Trebles, all single, sometimes double.
The tuning of the present Theorbo
[on a stave] *A', B', C, D, E, F, G | A, d, g, b, e', a.*
[on a stave] Flat [corrected from 'sharp'] tuning
♭B, ♭E [for 12th and 9th strings]
Sharp tuning ♯C, ♯F, [for 11th and 8th strings]
Theorboe Single
Single [corrected from 'Double'] Theorboe has 5 small Nutts which are placed at convenient distance and stand obliquely to each other 4th [corrected from '5th'] inclining more than the 5th towds the Bass side and so the 3rd etc. Ag.
The 1st nutt carryes 3 single Bass Strings the other 2 apiece which are all single Basses in all 11 single Basses. Ag.
The Great Nutt on the Neck carryes 5 double ranks of Trebles and one single in all 11 Trebles = Total of Theorbo Strings 22. Ag.
Q. Whether this be true for single Theorbo? no.
Q. Double Theorbo has its 1st string single. the 2d 3d 4th and 5th double (unisons) the 6th (and possibly all the rest) 8ves. Crevecoeur. this may be = 27 Strings.
[More notes from Mace.]
Mr Lewis. Great Nutt and short head on Plate carryes 6 double Trebles and one Single — 13
The long head carryes 5 Nutts whereof each carryes a Bass and 8ve — 10
} 23 strings
Sometimes only [corrected for 'the upper'] 3 Nutts on long head the 1st 3 double ranks the rest 2.

X24. ARCH LUTE [corrected from 'Mandalone']. Mr Shores.

	ft.	*in.*	*lignes*
From the top of the Head to the 1st Nutt carrying 7 [corrected from '6'] Basses single	0	6	1½
Thence to 2nd Nutt carrying 5 double Ranks and 1 single Treble	2	9	0

Thence to the Bridge	2	3	0
Thence to the Breech	0	4	5
	5	10	6½
Length of the Plate { From the Belly up to the nutt	0	9	1
[deleted: 'From the Nut to the top of the Plate	0	1	4']
Length [corrected from 'Breadth'] of the { upper Nutt	0	2	½
lower Nutt	0	1	7½
Breadth of the Plate { at top	0	3	0
at bottom	0	4	0
From the bottom of the Plate to the Knott	0	6	7
Depth of the Knott	0	4	6
Fro Knott to Bridge	0	7	1½
Breadth of Bridge next Belly	0	0	5
Length of Bridge between the Points of each Point	0	1	5
Whole length of Bridge [should be 0.9.3]	0	8	6
Length of Neck	0	10	4
Depth of Intrt under the Knot	0	5	6
Breadth of Belly { at bottom of Knot	1	1	3
at bridge	1	1	0
[deleted: 'Depth under the bridge'	0	5	6]

Y. ARCH LUTE. Mr Shore. *G′, A′, C, D, E, F, / GG, cc, ff, aa, d′d′, g′.* Flat and Sharp tuning the same as Fr lute.
Arch Lute. Mr Crevecoeur. *G′, A′, B′, C, D, E, F, / GG, cc, ff, aa, d′d′, g′.*

Z. The Arch Lute has 7 single ranks of Basses, and 6 ranks of trebles of which all but the 1st string are double, the 2d rises a 4th above the 3d whereas in the Theorboe it falls a 5th below it.

Thus from GG to g there are 2 4ths a 3d and 2 4ths [deleted 'The manner of Tuning is the same with the Arch Lute only one note lower'].

[In tablature, the following tuning] G′, A′, B′, C, D, E, F / G, c, f, a, d′, g′.

MANDORES

X10. MANDORE [corrected from 'Pandore'] (abredged of Fr Lute) Mr Shores

	[*ft.*	*in.*	*lignes*]
From the top of the bendg [bending] Head to the Nutt	0	5	5+
Thence to the Bridge	1	5	0
Thence to the Breech	0	2	2

Whole length { From Head to Breech	[not entered]		
Nutt to Breech	[not entered]		
Length of Plate carrying 9 frets from Nutt to top of Belly [deleted 'and of Neck'] to beging of Points 6′ 3″; length of each Point 1′ distance between 'em 1′ $2\frac{3}{8}$″.	0	8	0
Length of Nutt carrying 2 double rank of 8ves. 1 of Unisons: and 3 single ranks	0	1	5
Breadth of Plate above 1′ 5″: below 2′ $\frac{1}{2}$″			
Length of Belly	1	0	0
From top of Belly to Knott	0	3	2
Diameter of Knot	0	1	7
From Knott to Bridge	0	4	$5\frac{1}{2}$
Length of Bridge between Points 3′ 2″: of each Point 6″: Breadth of Bridge at bottom $3\frac{1}{2}$″. at top $1\frac{1}{2}$′.			
Height of Bridge 2″:			
Breadth of Belly next Plate $2\frac{1}{2}$′ at broadest part 1′ 2″ above Bridge	0	7	2
Depth of Belly under Knott 3′ 3″			
Ribs 9			

Mandole properly $\begin{matrix}5\text{ courses}\\ \text{ranks}\end{matrix}$ whereof the lowest double the rest single (Lewis).

Y. Mandole. Mr Shore. Mr Finger.
[on stave, scored through: *c′c″, f′f″, a′a′, d″, g″ / c, f, a, d′, g′*]
[deleted 'by unisons'] Mr Shore.
Mr Finger
[on stave:] cc′, ff′, b♭b♭, d′d′, g′, c″, / c, f, a, d′, g′ octaves

Z. Germ. Mandörgen. Mandürichen. Mandore
Forse quia manu facile tractari p[otes]t
Praet. Synt. Mus. tom 2. cap. 27
Figure Mersenne Gall. pag. 93. Lat. p. 26
Kircher l. 6. p. 247. Iconis m. 7. typ. 7.
[Notes on mandore from Mersenne.]
[Strings] Sometimes wire.
[Tunings in tablature—see Y.]
Sometimes the pricked string [refers to the 4th course shown in the tuning] is tuned a Note or two lower that it may make accordingly a 4th or 3^{d} [corrected from '5th'] major to the 2^{d} string. Tis commonly tuned by Unisons being easyest to the Ear. But h of the 4th=a of 3^{d}. f 3=a 2. h 2=a 1. It may be tuned by 8ths, viz $\left.\begin{matrix}3\\4\end{matrix}\right\}$ 8th to $\begin{cases}1\text{st}\\2^{d}\end{cases}$
[Notes from Mersenne.]

X23. ARCH-MANDORE. Mr Shores. abridgmt of Arch Lute

		[*ft.*	*in.*	*lignes*]
From the top of the long Head to the 1st Nutt		0	6	4
Thence to the [deleted 'Bridge'] 2nd Nutt on the Plate	consequently length of	1	11	4
Thence to the Bridge	Basses 3f 6′ 4″ from 1st Nutt to Bridge	1	7	0
From the Bridge to the Breech		[not entered]		
Length of the Plate (excluding Points on each side which are the ends of Neck [word illegible, possibly 'face'] 7″)		0	8	½
of the Upper Nutt carrying 7 single Basses		0	1	7
of the Lower Nutt carrying 5 double one single Treble=11 Trebles		0	1	6
Breadth of Plate above		0	2	5
below next the Belly at upper end of the Points		0	3	1½ [poss. '2½']
Length of Points on each side Plate at bottom 1′ 2½″				
Distance between 'em			2	4½
Length of Neck		0	10	½
Diameter of Knott		0	2	5
From Knott to Bridge		0	4	2½

Length of Bridge between the Points 5′ 1½″: of each Point 4″. Breadth at bottom 4⅓″. at top 2″
Breadth of Belly next Plate 3′ 2″: at broadest pt 2′ above the Bridge 7′ 4″. below Bridge 6′ 7″.
Depth under Knott 3′ 6″

Y. ARCH MANDOLE. Mr Finger. Mr Cuthbert.
7 single basses. [On stave:] *c, d, e, f, g, a, ♭b*
[lower octaves deleted] / *c′, f′, ♭b′b′, d″d″, g″, c‴*
? whether thus [unisons deleted] Mr Shore
[On stave:] *C, D, E, F, G, A, ♭B* / *cc′, ff, ♭bb, d′d′, a′, c″.*

Z. ARCH MANDOLE [corr. from 'Mandoline']
Made as the Arch-Lute but less, with a long head and 2 Nutts of which the upper carryes 7 single Basses. The Nutt on the Plate 5 double ranks of Trebles and one single in all 18 strings: it has 9 Fretts.

CALASCIONE

X30. COLACHON [corrected from 'Dulcimer'] (Mr Finger).

	[*ft.*	*in.*	*lignes*]
From Top of Head to Nutt	0	5	1½

Thence to Bridge	03	2	3
Thence to Breech	0	4	6
Length of Plate and Neck which is one inch longer	1	7	4
Breadth above and of Nutt carrying 6 single strings	0	1	7½
Breadth below and of belly at top	0	2	7
Length of Belly	1	11	0
From top of Belly to Knott	0	7	2

Diameter of Knott. 3′.7½″. Depth under Knot. 6½′.
From Knot to Bridge. 7½′.
Length of Bridge between Points. 6′.7½″.
of each Point. 6½″.
Breadth of Bridge below. 5″. above. 2½″. Its height. 3″.
Breadth of Belly at Knot. 1f. 1′. 2″:
Ribs. 9.

Y. COLACHON. Mr Finger. 7 Frets.
[on stave:] *C, D, G, c, e, a.*
A′

Z. COLACHON. Trichordium Turcicum. Kirch.

All Instrts that have but one two or 3 Strings may be referd to this or the Monochord.

Tis an Italian Instrt of 4 5 or 6 Feet in length: where it has but two Strings they are tuned to a 5th: where 3, to 8th and 5th viz [on stave] *c′, c″, g″*, tho there are several other tunings: tis somewhat like the Lute having a very long Neck to give more room for the extent of its strings. Mers. Instr. Gall. l. 2. pr. 16.

Its Belly and Ribs described in the Lute.

Mersenne and Kircher Musurg. l. 2. f. 2 makes 16 Frets or divisions on the Neck of his Colachon (Instr. Lat. l. 1. pr. 24 and Gall. 2. 16). tis not usual to have more than 8 or 9 Frets on the neck of other Instrs: it fit only for 2 or 3 pts according to the Nr of Strings. Id. Instr. Lat. l. 1. pr. 24.

Frets 16 from b to r so that each String has compass of 10th maj. n sounding octave to the open.

The Belly sometimes made half Firr half Parchment. sometimes of Glass, Laton etc. the best of Firr. which fittest for this and other Instrs being free from Knotts.

NOTES

GENERAL

Talbot's notes on the lute and allied instruments occupy a good deal of space in the manuscript, but nearly all of it, apart from the measurements, consists of material copied and abbreviated from Mace, Mersenne

and to a lesser extent Kircher. The period during which the notes were made (1685–1701, see *GSJ* I, p. 10) was one in which the lute had declined to a fairly minor place in English musical life. The information received from contemporary musicians is fairly scanty but the space given to what amounted to relatively antiquarian authorities is a measure of the prestige attaching to the instrument in theory if not in practice generally.

THE FRENCH LUTE

The lutes described under the name are of the type of instrument which persisted into the eighteenth century and is well-known from many paintings and engravings. It carries eleven courses of strings, which are all of the same length, an arrangement which only became practicable when covered strings came into general use. Nearly all of these courses lie on the wide fingerboard.

The first lute for which measurements are given belonged to one Crevecoeur, who does not appear in De Lafontaine's lists, and was said to be by Laux Maller (Maler, d. 1552) although some doubt seems to exist. Maler forgeries were well known in the seventeenth century and later. 'Sellier' could be Sellas; there were several Venetian makers of this name earlier in the century. There is nothing of special note in the dimensions of the 'Maller' lute, except that with an open string length of 27$\frac{9}{16}$ in., it would be hard to tune a treble string up to *g'* in modern pitch. The number of strings is not given but it could be 9×2, 2×1; the nut is a little wider (about $\frac{1}{8}$ in.) than the fingerboard, so that all the strings would lie substantially on the fingerboard.

The second lute has no maker noted and there is nothing of special note in the measurements except that the method of showing the width of the belly is hard to make sense of, and if it is read as specifying 11$\frac{3}{8}$ in. at 2$\frac{1}{2}$ in. above the knot (rose) it is probably wrong. The open string length is 27 in. In the case of this lute the nut appears to project $\frac{3}{8}$ in. beyond the fingerboard (presumably on the bass side), so that the eleventh course would lie outside the fingerboard.

A good number of lutes of this kind, several being older lutes with new necks added, have survived to this day.

THE ENGLISH LUTE

This is essentially the lute described by Mace. It is curious that it should be called the English lute, as the distinctive form of the neck and peg-boxes almost certainly originated on the Continent and may have been introduced into England by Jacques Gaultier. Two things seem to be indicated. First, that the instrument used by Dowland and his con-

temporaries had been forgotten (together with their music?), and secondly, that the fashion introduced from the Continent may have survived in England after it had been superseded in the countries of its origin.

The lute described has a smaller body than most, and the open string length of the strings on the fingerboard is only 23½ in., while the tuning given for the treble string is only *f′*. There are eight courses on the fingerboard, the treble being single, and the basses on the upper peg-box, each pair on its own nut, are 25 in., 27⅛ in., 29⅜ in., and 32⅛ in. respectively, as compared with the 5-ft. basses of the arch lute described later.

This type of lute is well known from many pictures as well as from Mace's book, but no example seems to have survived.

THE ANGEL LUTE OR ANGELICA (ANGELIQUE)

This rather unsatisfactory instrument tried to take advantage of the more ringing tone of strings sounded open, but at the expense of compass. With sixteen single strings the tuning ranges only from *D* to *e′* in a diatonic scale.

FRENCH THEORBO

Talbot gives no measurements for this, which is surprising since it was by his time a commonly used instrument. The open length of the fingerboard strings was usually from 32 to 35 in., bringing a fret spacing which limited the stops that could be used, and the instrument was normally an accompanying one for the voice or in consort. The tuning given shows that it still used the old tuning of the lute.

LESSER FRENCH THEORBO

As distinct from the larger French theorbo, the strings on the fingerboard were only a little longer than in the lute, in Talbot's example 29⅞ in. This did not permit the treble string to be tuned up to *d″* apparently, since it and the second are lowered an octave, but the fret spacing still allowed the stopping required for solo music. The instrument used the old lute tuning but was tuned a fourth higher than the larger French theorbo. The body is of normal lute size, and the bass courses are 50⅞ in.

ENGLISH THEORBO

The English Theorbo examined by Talbot is similar to the English two-headed lute in having its basses of graduated length. From the

tunings given and from the miscellaneous notes it is clear that considerable variation in the method of arranging the strings in this type of instrument occurred. We find: (a) 7 basses, 6 trebles, all single or all double; (b) 8 basses, 6 trebles, all double but for the treble string; (c) 11 single basses, 6 trebles, all double except for the treble string; (d) 5 doubled basses on the upper head and 6 double and 1 single course on the fingerboard. The tuning given is for arrangement (b) and is the old tuning of the lute, with the treble at *a'*.

The open length of the strings on the fingerboard is $35\frac{7}{8}$ in. and the basses extend from $39\frac{7}{8}$ to $53\frac{3}{4}$ in.

The dimensions given by Talbot omit the distance from the bridge to the bottom of the belly, but it can be inferred that it was a big-bodied instrument, with a body some 27 in. long, 15 in. wide and 8 in. or so deep. A body of this size—about four-thirds the size of the normal lute body—was that used in the sixteenth century for the bass lute, tuned a fourth lower than the usual tuning. It is thus possible that the theorbo Talbot examined had, like other known examples, been converted from an old bass lute.

No theorbo with this pattern of neck and peg-boxes seems to have survived.

ARCHLUTE

The instrument belonging to Shore which Talbot examined and measured had the general proportions of a chitarrone, being only about an inch short of six feet long overall. The open length of the strings on the fingerboard is 27 in., which allows normal lute tuning and the fingering necessary for solo music, but the bass strings, single, are 60 in. The tuning is the old tuning of the lute. The body is fairly large, but no more so than might be found in an ordinary lute.

A good many examples of similar instruments still survive.

MANDORE

Shore's instrument, as measured by Talbot, had an open string length of 17 in. and an overall length of just over 2 ft., and is really a miniature six-course lute. One of the tunings given, with Shore's name appended, could be of this instrument, with its treble string at *c''*; but the other tunings are for five-course mandores and seem to imply a different open string length.

ARCH MANDORE

This instrument was another of Shore's, and was a miniature archlute with an open length of fingerboard string of 19 in., and seven single

basses of 42½ in. The tuning was the same as in Shore's mandore, with its treble at *c''*, but with basses down to *C* added.

CALASCIONE (COLASCIONE, COLACHON)

It is clear that although Talbot borrowed Finger's calascione, and examined it, he was somewhat puzzled and did not reconcile what he saw with what Mersenne and Kircher wrote about the instrument. This particular example has a normal lute-sized body and was probably (like several surviving calascioni) converted from one. The tuning of the six strings, *A'* or *C*, *D*, *G*, *c*, *e*, *a*, is a rather peculiar one and leads us to wonder how the instrument was played and what particular purpose it served. It is certainly not the same as the Italian two or three stringed country instrument whose name it has adopted.

Letter to the Editor

RESTORATION OF SQUARE PIANOS

TO THE EDITOR: I feel that I must cross words with Mr Terence Usher's note in *GSJ* XIII (p. 92). I suppose that I must have restored well over thirty 'squares' in the past seventeen years—although I am an amateur—and my own collection of instruments contains nearly thirty pianofortes, dating from 1772 to 1843 (see list below). I cannot conceive how Mr Usher produces his theories. While conceding that square pianos are fairly difficult to tune, if kept in an even temperature they *stay* in tune most marvellously. I have a few favourites that never seem to need attention; that is, they keep in tune from year to year. I religiously keep them a tone below modern pitch.

It is, I admit, better to have a square piano playing on one string than not at all on two. On the other hand, it entirely alters the character and makes the instrument neither one thing nor another. It loses its character as a piano and becomes a sort of bastard between a spinet and a piano, with a hollow mournful sound. I quote from experience the three following examples of my own pianos. Firstly, an unusual Clementi square, of about 1820 yet still very elegant, with 6½ octaves down to C. This I restrung entirely, using very slightly thinner strings than the originals. It keeps in tune literally for years. I re-covered the hammers, which had been covered with felt in about 1850 or so, with soft leather as near as the originals should be. The result is an enchanting instrument, full of character without any faking.

The next two are of great interest inasmuch as they are twin-sister pianos by Broadwood, one dated 1788, the other 1787. These two are the complete answer to Mr Usher's assertions about the poor tone of square pianos, and I would say prove him incorrect. They are identical in every way, even to details on the cabinet work. The 1788 one was restored by a dealer; it had been sympathetically dealt with and I have no adverse comments to make on the restoration. The other I bought in Canterbury. It was in good condition, with about 95 per cent of the original strings. Those needing replacement, or faulty, I re-did. All dampers were original, and all hammers original with leather covering. I repaired the instrument—restored would be incorrect—viz. for two or three hammers broken at the hinge, with perhaps a dozen strings to be replaced. All the strings were carefully cleaned with emery paper to remove rust, etc.

Both instruments now keep in good tune. Both sound almost the same. Perhaps the 1787 instrument, with its original strings, is not quite as 'bright' in sound as the other (1788) with new strings, but I think it has more volume. I feel that these two instruments offer almost a classic demonstration of the fallacy of indiscriminately removing all the strings before careful examination of them, and they prove conclusively against Mr Usher's contentions. A square piano designed as a bichord is far better as such, with either new or original strings, than a fake restoration with one string. I make a plea to members to undertake all restoration work with great care and sympathy, and if possible, regardless of expense: not just to make a square piano into a sort of jazzed-up substitute for a spinet.

I am, yours, etc. C. F. COLT

LIST OF THE C. F. COLT COLLECTION

(*Bethersden, near Ashford, Kent*)

1 2 manual Joseph Kirckman Harpsichord. 1800. Machine stop
2 2 manual Joseph Mahoon Harpsichord. 1737. Hand stops
3 1 manual Jacob Kirchman Harpsichord. 1750. Hand stops
4 Classical G.P.F. by Broadwood. *c.* 1820. 6 octaves
5 Classical G.P.F. by Wm. Stoddard. *c.* 1825. Compensating frame. 6½ octaves
6 Viennese Forte Piano, unknown maker probably Stein or Scheidmayer. *c.* 1775. 5 octaves. Knee levers
7 Hexagonal Table Piano. Pape. 1843. 6½ octaves
8 Pianino (upright Mini-piano type). Pape. *c.* 1839. Almost 7 octaves
9 Portable Viennese Piano. Probably Spath and Schmahl. 4½ octaves. Various hand stops and knee levers. *c.* 1770
10 Haxby Square Piano 1774. Short 5 octaves. Hand stops
11 Haxby Square Piano 1789. 5 octaves. Swell, damper raiser and buff, all by pedals
12 Unknown Austrian 5 octaves Square Piano, with early mechanism. Stoszmekanik. Probably about 1750 or 1760
13 Pohlman Square Piano. 1778. 5 octaves. Hand stops
14 Pohlman Square Piano. 1772. Short 5 octaves. Converted to clavichord
15 Square Piano. Simpson. 5 octaves. *c.* 1778. 3 hand stops
16 Jacob and Abraham Kirckman. 1779. 5 octaves. Converted to clavichord
17 Erard Frères Square Piano. 1804. 5½ octaves. 4 pedals
18 Broadwood Square Piano. 1802. 5½ octaves. Pedal
19 Broadwood Square Piano. 1787. 5 octaves
20 Broadwood Square Piano. 1788. 5 octaves. (Swell to lid)
21 Broadwood Square Piano. 1836. 6 octaves. Part iron frame. 1 bar
22 Broadwood Square Piano. 1832. 6 octaves. Part iron frame. No bar
23 Broadwood Square Piano. 1821. 5½ octaves. Very elaborate brass inlay. Drawers

24 Broadwood Square Piano. 1820. 5⅛ octaves. Simple, drawers
25 Broadwood Square Piano. 1821. 5⅛ octaves. Round corners. Elegant
26 Clementi Square Piano. *c.* 1825. 6⅛ octaves. Elegant
27 Clementi Square Piano. *c.* 1818. 5⅛ octaves. Plain
28 Tomkinson Square Piano. 5⅛ octaves. Very elegant. *c.* 1815
29 Broadwood Cabinet Piano. 5⅛ octaves. *c.* 1820
30 Barrel Organ. *c.* 1800. 16 barrels. 4 stops
31 French Harmonium. *c.* 1850. 1 stop. About 4 octaves

All instruments are in playing order save Nos. 12, 13, 21, 23, 25, 28, 29, and 31.

Notes and Queries

F. BOIE OF GÖTTINGEN (1762–1809)

A very interesting biographical note on this maker appears in *Glareana*, Jhg. 9, Nr. 1, issued in stencil form from Zurich to members of *GEFAM* (Gesellschaft der Freunde alter Musikinstrumente). The author is Pastor Günter Hart, a member of the Galpin Society and owner of a collection of strings, woodwind and brass. The importance of Pastor Hart's article lies in its correction of errors repeated in English sources since Day's *Catalogue of the Royal Military Exhibition* (1890) and Rockstro, *The Flute* (1890).

In Day's Catalogue, No. 49 was a one-key transverse flute by Boie and the instrument is now No. 308 of the Carse Collection in the Horniman Museum, London. Rockstro (para. 424) states that the Boie flute was then in the collection of Carli Zoeller and 'belonged to the celebrated Johann Joachim Quantz whose grand-nephew, Albert Quantz of Göttingen, presented it to Mr Zoeller as a relic of his illustrious uncle. It bears the name *Quantz* written in ink above the branded name of the maker. It is not unlikely that F. Boie may have been an ancestor of J. F. Boie' (the latter credited with the invention of pewter key-heads covering holes lined with silver—a device patented by Richard Potter of London in 1785). Rockstro continues 'whether this was or was not the case, the instrument in question was probably in the possession of J. J. Quantz before he left Dresden for Rome in 1724 and . . . it is scarcely likely that he used it after 1726'. Most of this was repeated in Day's Catalogue, *s.v.* No. 49; and in the plate facing p. 150 of *English Music* (1906) the Boie flute is included with the legend 'No. 16, Germany, before 1724'. Adam Carse in his Catalogue (1951) cites Day, Rockstro and *English Music* and adds 'The name "Quantz" and the name of each note-hole is written in ink. This probably belonged to J. J. Quantz (1697–1773). . . .' Alas, for all these writers—with whom I must include myself—we now know that Boie was only eleven years of age when Quantz died.

The Church Records of Göttingen disclose that Johann Friedrich Boje was christened in the Weser Town of Stolzenau on December 10, 1762. Nothing is known of his years as apprentice of journeyman, but Göttingen civic rights were conferred on him on October 28, 1789. On March 1 of that year his marriage is recorded: 'Herr Johann Friedrich Boje, burgher, musician and instrument-maker in this town,

lawful surviving son of the late Johann Christian Boje [in the Church Records the name is written variously as Boje, Boye, Bojé] burgher and brewer in Stolzenau, and Frau Catharine Sophie who by marriage became Warnecken *née* Keller of this town.' Boie died on April 22, 1809, from phthisis, survived by his widow who died in 1819, aged fifty-three. Of six children, two sons took up their father's craft. The elder, Carl Christoph, appears in the earliest Göttingen Directory for 1857 as musical-instrument maker. In 1865 there occurs August Boie, musician (evidently no longer an instrument maker), and in 1872 the name itself drops out. No instruments by Boie's sons are known to survive. Pastor Hart records the following ten instruments by F. Boie:

Flutes: 1-key, Carse, 308; 4-key, Berlin, 104; 6-key and C-foot, Eisenach, 129; 7-key, Leipzig, 3351; 8-key, Leipzig, 3461; with unknown number of keys, Berlin, 2683, and Miller, 401, 467. *Clarinets:* B♭, 6-key, Hamburg 1924/242; A, 12-key, Hamburg 1912/1558.

In the Focke Museum, Bremen, is a cross-flute head by Boie. As a brand-stamp, a lily is often found under the name. Boie instruments are very well made and denote a skilled craftsman. Comparison of surviving Boie instruments would have made it obvious that an instrument maker who made 12-keyed clarinets and transverse flutes with C-foot could not have lived *pre* 1724. Finally, as Pastor Hart wisely remarks, it can hardly be attributed to Quantz that he found it necessary to mark the fingerholes with note-designations! Our thanks are due to Pastor Hart for a long overdue correction.

LYNDESAY G. LANGWILL

JOHN PETRE'S ACCOUNT-BOOKS, 1567–1577

The following extracts are made from the two earliest account-books of John Petre, son of Sir William Petre of Ingatestone Hall in Essex (Essex Record Office, D/DP A17, 18). Those for 1567–70 relate to the period when he was a law student at the Middle Temple, which he left on his marriage in 1570 to Anne, daughter of Lady Waldegrave, widow of Sir Edward Waldegrave, who died in the Tower in 1561. Soon after their marriage they moved to Thorndon Hall, not far from Ingatestone. Similar entries from the account-book of John's father will appear in a chapter on Music at Ingatestone Hall in my biography, now in the press, which will be published by Longmans, Green and Co. about the same time as this issue, probably under the title of *Tudor Secretary: Sir William Petre at Court and Home*. This chapter and the entries printed below form a small supplement to the important material in Dr W. L. Woodfill's *Musicians in Elizabethan Society* (1953).

It is hoped that my colleague, Mr A. C. Edwards, History Lecturer at Ingatestone Hall, will publish a book about Sir John Petre, including extracts from his later account-books, which contain further entries of musical interest.

Music

[Extracts from the book of John Petre, Law student at the Middle Temple, 1567–8. D/Dp A17.]

1567		
Oct.	To John Taylor to bring my lutes	2d.
Oct.	To Tho. Antell for bringyng Mr Brugges lute to my chamber	2d.
Nov.	To Mr Litchfelds boye for bringyng me a songe for the lute	12d.
Dec.	To Mr Petro for a booke for the lute and prickyng songs therein	20s.
1568		
Jan.	To the minstrels	2s.
Mar.	To John Taylor for bringing 2 lutes from Aldersgate Street to the Temple	2d.
Mar.	For 1 dosen of lute strings	5s.
Apr.	To Currance for my admyttaunce into his schole 10s. and to the usher and musitians 2s., in all	12s.
May	To Bartlett at Fletebridge for lutestrings 7s. 2d.; for a wooden boxe to put them in 2d.	
June	For a psalme booke geven to my cosen White	20d.
1568		
Mar.	To Mr Pietro for his pains and songs for the lute	20s.
Nov.	For a dozen of lute strings	3s.
Nov.	To Mr Pietro for the exchaunge of a lute	13s. 4d.
Nov.	To Mr Ryndall to Rifle for a lute	6s. 8d.
1569		
Jan.	For a doz. of lute strings there [previous entry refers to Bartlett]	3s. 4d.
Mar.	To Mr Frithe for my admyttaunce into his dauncyng schole	12s.
Aug.	To Mr Pietro for lute strings	5s.
Nov.	To Northen his men playing at my chamber wyndow on All Sowles Daye in the morning	2s.
1570		
Jan.	To Northen and other minstrels that played at my chamber window	2s.
Feb.	To the Lord of Misrule at the Temple	12d.
28 Mar.	To Northen the mynstrel	12d.
18 Apr.	To Currans his men playing at my wyndow at Ingatstone	6s.
Apr.	To them at my marriage	23s. 4d.

15 May	Rewards. To Sir Henry Tyrell's musytions at Warleye	2s.
June	To Sir Thomas Kemp's musitians	2s. 6d.
23 July	To minstrels at Montague playing at a chamber wyndow	12d.
	[In another section of the book]	
1569		
Nov.	For 4 knots of lute strings	12d.
1570		
Feb.	For lute strings	2s.
Apr.	Bentley his charges to London for the musytians	2s. 8d.
20 Apr.	For Mr Pietro for lute strings	10s.
Apr.	To Mr Pietro for a lute	50s.
1576		
3 Dec.	For virginall wyer	22d.
15 Dec.	For a dozen of lute strings nere Fletebridge	3s.
1577		
Jan.	To the minstrels for playing the 12 days by covenant	60s.
	Paid by John Troughton in London for 2 dozen and 8 knots of lute stryngs	7s. 8d.
Apr.	To Warrens musitians	3s. 4d.
12 May	Paid more by John Troughton for a dozen of lute strings	3s.
14 May	Paid to a Dutcheman in Chauncery Lane for mending the lute	3s. 4d.
	To Wm. Chambers for strynging the same lute 20d.; to him for lute strings delivered to John Troughton	5s.
2 June	Given to Sir Henry Tyrelles musitians in reward for playing at Thorndon	5s.

F. G. EMMISON

RECORDER FINGERINGS

By way of reply to Mr J. W. F. Juritz (*GSJ* XIII, p. 91) I should like to explain that in my note on this topic (*GSJ* XI, p. 90) I was concerned with the solution of the immediate problems of the Telemann Concerto in F in terms of eighteenth-century knowledge as exemplified in Majer's book, that being the only one I know which takes into account the possibility of such extreme high notes.

The idea of stopping the end of the recorder to produce the high F♯ is not new. Both Carl Dolmetsch and I have done it for many years, first with the knee and later experimenting with a key. My own experimental key mechanism, made in order to try out a passage in

Bach's 'Öffne meinen schlechten Liedern' (Cantata 25), was rather a Heath-Robinson affair. The left-hand little finger depressed a lever to pull a wire which passed through the 'bell' of the foot joint, to pull a key against the hole.

In 1958 I admired Carl Dolmetsch's rational approach when he showed me how he had devised a new F♯ key. This was ready just in time for the first performance of the Suite for Recorder and Strings by Gordon Jacob, which makes important use of this note. He had closed the end of the instrument (as a fixture) and bored a new hole in the side (*à la* Bressan bass) which he covered with an open-standing key for the little finger of the right hand. On my asking how soon it started to blow bubbles, he showed me a small hole in the end-plug —sufficient for drainage, but not so large as to affect the F♯. He had also found that this stopping of the lower end greatly improved the production of the extreme high notes. Since then he has, I think, adopted a more conventional arrangement, stopping the end with a key. I have seen a similar key on the foot joint of a foreign recorder, and one of the students at the 1960 'Recorder in Education' Summer School had also made one. Although it is simpler for the maker to give such a key to the player's right hand, I think it is better to utilize the hitherto unemployed left-hand little finger, even if it means making the foot joint a fixture.

Given a workable key, the next thing will be to establish a logical pattern of fingering for the highest notes, selecting the best and avoiding a plurality of alternatives.

EDGAR HUNT

THE RUSSIAN FOLK CORNETT, OR ROZHOK

The following is a selective summary of the thirty-three-page introductory text of B. Smirnov, *The Art of the Rozhok Players of the Vladimir Region* (*Iskusstvo Vladimirskih Rozhechnikov*), published by the Union of Composers of the USSR, Moscow (K-9, Briussovky per. 8/10), 1959. This clear and well-documented work, containing a hundred engraved music examples transcribed from recent recordings, may have interest for others besides folklorists at this present time of revival of the cornett for performance of early music, while the two photographs of players reproduced in the book very clearly show that side-of-the-mouth embouchure which is so well known in old pictures of western cornettists and from contemporary accounts of the instrument. My thanks are due to Mrs Victoria De Bray, who generously found

the time to translate the Russian text and help in making this brief summary of it.

'The Vladimir players on their rozhoks caused a furore in St Petersburg'—'an epic folk beauty in every respect', wrote Borodin in a letter. Biographies of Russian composers reveal their love to hear the shepherd melodies and the deep impression these made on, for example, Glinka, Prokofiev and Miaskovsky. Rimsky Korsakov used such a melody, taken down by Liadov, in *The Snow Maiden*, and Tchaikovsky took a rozhok tune (No. 25 of the examples, see Ex. 1 below) as a model in Act II of *Eugen Onegin*, and similarly a rozhok trio in the scherzo of the Fourth Symphony. But though the rozhok played an important part in folk music up to the end of the last century, the coming of the accordion, besides almost forcing out the balalaika, acted adversely against the role of the herdsmen rozhok-players in local festivities. Musical literature has consequently possessed very little concerning either the role of these players or of their music and ensembles. Therefore, during 1952–5, the Union of Composers of the USSR sponsored expeditions to the Vladimir and Ivanov districts to investigate the extent of rozhok playing, and in the course of these were recorded the hundred melodies published in this book.

The *rozhok* [cornett] is not to be confused with the *zhaleika* [hornpipe], although the two have much in common musically. The herdsman's rozhok is a straight wooden pipe with conical bore, small bell, and small mouthpiece. It has five fingerholes and a thumbhole, and is traditionally made of juniper in two separate halves bound together with birch bark, though recently it has often been lathe-turned. A 'solo' rozhok is about 50 cm. long with a compass from d' to g''. Ensembles employ instruments 40 cm. long and pitched a fourth higher (g' to c''' or higher), and 80 cm. long ('bass', an octave below at last, g to a'). The instrument is commonly referred to as *truba* or *rog*, though the latter ('horn') more usually indicates the plain birchwood horn without fingerholes employed as a signalling instrument in some areas and no doubt ancestral to the fingerhole variety. N. I. Privalov (*Russian folk wind instruments*, [in Russian] 1906), describing the herdsman's four-hole rozhok from Olonets, considered that its scale corresponded with that of the Olonets *byliny* (chanted epic narratives), and the scale he cites occurs also among the Vladimir recordings. The Vladimir players produce a peculiar tone, between that of trumpet and voice, and tinged with suggestions of oboe and viola. Their enchanting resonance, with its contrasts of legato and staccato and its varied decoration of the melodies, leaves an unforgettable impression,

and is especially appreciated by local residents at sunrise after heavy dew.

The players distinguish four types of rozhok music. First, *trublyi*—ancient calls for one instrument, some centred musically on a harmonic series, others imitative of the sounds of sheep and cattle or of spoken words: herdsmen say that it is as if the words of a poem were spoken privately into the instrument. These calls include the *kirila* for rounding up stray animals or calling a neighbour. Next, there are folk and popular tunes played on one instrument, and including Soviet songs known all over the USSR. Thirdly, ensemble pieces, and lastly dance tunes for one instrument or ensemble. (These types are discussed by the author in some detail.) Each year the performers begin playing themselves in and perfecting their pieces in the early spring; one player said 'We do not first hear our playing directly; we go to the edge of a wood, and blow and listen for the sound to come back to us—thus one can test oneself.' From mid-April onwards, cattle grazing is nearly always accompanied by the rozhok. The ensemble playing, while reflecting local custom and predilection, is based firmly on Russian folk song, with its highly-developed vocal line and tradition of improvised part-singing and making variations. Good players are valued even to the point of receiving extra wages on a collective farm. The most skilful player of an ensemble often introduces the melody on the bass instrument (which is shown in the illustrations with a spreading metal bell) and thence lead the subsequent playing in parts. A trio of two trebles and one bass rozhok is commonest, and next a quartet (three trebles with one bass). The music is predominantly major or myxolydian in mode, and while the individual freedom of the parts is most striking, a stylized unity of procedure has been evolved over the centuries, partly in conjunction with a tradition of rozhok accompaniment to part-singing.

ANTHONY BAINES

Reviews

HANNS NEUPERT. *Harpsichord Manual.* Kassel: Bärenreiter. (London: Novello.) 1960. 98 pp. 17 plates. 15*s.* 6*d.*

This little volume is exactly what it purports to be, a handbook for owners and players of the harpsichord. It first appeared in 1932, and this is an English translation by F. E. Kirby of the third German edition of 1955, apparently with a few later revisions.

As might be expected from a writer with Herr Neupert's long professional experience in building keyboard instruments, it is a mine of solid information and good sense. The first part is a concise history of the instrument, including a thoughtful commentary on its musical use. In the second, Herr Neupert discusses the building and care of modern harpsichords. If this is the more valuable, it is because the craftsman in our midst is so rarely able—or willing—to communicate his ideas to others, or to express lucidly the goals at which he aims.

The section on Modern Harpsichord Building will be of special interest to members of this Society, for it is here that Herr Neupert's *credo* emerges. In fact, this statement of the modern maker's point of view, following the Editorial remarks on the same matter in *GSJ* XIII (see *Provisional Index of Present-day Makers*, p. 71), invites some comment. Mr Baines concluded that . . . 'Perhaps it is more important that the maker should *know* his prototypes inside and out than that he be required faithfully to repeat them for ever: indeed, design can scarcely remain forever static in the hands of an artist-craftsman. . . .' Herr Neupert confirms this view, his fundamental proviso being that '. . . a modern harpsichord . . . must on the one hand strictly preserve the old tone quality . . . but on the other, it must be built on a technically precise and up to date fashion. . . .' He is, moreover, outspoken in his criticism of what he feels to be weak features of certain original designs, and even goes so far as to suggest that it is useless to aim at reproducing the tone of, for example, a surviving Ruckers harpsichord 'since when it was new [it] sounded quite different from the way it does today'. 'The proper demand addressed to the builder is to make a harpsichord that would correspond to the Ruckers . . . as it was in its prime. This task . . . requires one to uncover the essentially timeless aspects of the model and to choose properly what modifications must be introduced on the basis of a thorough knowledge of the instrument. . . .'

Clearly, this kind of 'heads I win, tails you lose' argument is all very well if supported, as here, by the integrity and authority of a great craftsman, when one gladly accepts it with the respect it deserves. It does, however, disarm 'purist' criticism, and by denying the validity of the one obvious standard of judgment—comparison between the tone of the old instrument as it is today, and that of the modern one—cuts the ground from any conscientious study of early instruments based on their 'live' tone qualities as found. The purist attitude has this advantage, that it seeks the source of early music as far as possible among instruments surviving from the time it was produced, and so exercises some

measure of control over modern activities of the same sort. The moment modification is admitted, for whatever reason, it opens the door to 'improvement' based on ignorance—or at least, it demands that a very large measure of trust must repose in those who reproduce old instruments. Nor is it enough to produce a so-called 'exact replica' of an early instrument without some knowledge of what called forth its dimensions and the minutiae of its technology (which, by the way, are often overlooked). Herr Neupert calls attention to the fact that there appear to have been no consistent standards of measurement, even between two old harpsichords by the same maker. Had he been considering violins he might have found the same phenomena accentuated. It is the cry of our technology-ridden age that everything must comply with an exact standard. But did the old craftsmen work this way? Never in a thousand years! They allowed themselves wide margins of tolerance and exercised an individual judgment on each separate problem as it arose, especially with regard to the textures and densities of particular batches of timber. Each instrument was a single hand-made bench job which thus developed a character of its own, over and above its likeness to its kind. We cannot put back time, nor is this the way either our minds or our economy work today. But we can remember that the early craftsman knew far better than we do the kind of standards to which he was working and the musical results that were expected of his product by his contemporaries. We simply must extract the last ounce of knowledge from the 'real thing' before we attempt to reconstruct it—let alone improve it. E. H.

Roger North on Music. Transcribed from his essays of *c.* 1695–1728. Edited by John Wilson. London, Novello. 1959. Two guineas.

The musical amateur of philosophic bent, though often given to cranky judgments, usually has certain solid merits as a chronicler of the music of his time. Not the least of these is the willingness to examine questions which would have been treated as self-evident by his professional contemporaries. John Wilson has done us a service in extracting the musical material from the voluminous miscellaneous writings of Roger North, whose life span makes his views especially interesting.

A pupil of Jenkins, he saw the staid music of the consorts swept away by the Lullyism of Charles II and his twenty-four violins, and the latter in turn *démodé* by the new Italian music. His later writings are well in the period of Handel and Vivaldi, though he does not mention the former and seems to regard the latter as second only to Cromwell as a disturber of civilized standards. Despite this rather reactionary cast of thought, North's judgments are often penetrating; he anticipates Rameau's theories of harmony, and his statement that bassoons 'have more the sound than the effect of a base' is remarkably like Strauss's pronouncement two hundred years later. It is interesting to see things through seventeenth-century eyes. North contrasts his own view that the great period of English music ran from James I to Charles II with that of the majority of his contemporaries, who thought only the 'moderns' were great. Neither considered the Tudor period of any account. As to the 'troubles' brought about by

Cromwell, they had one good result: many 'chose rather to fidle at home than to goe out and be knockt on the head abroad'.

There is a thorough account of the method of tuning 'clavicall instruments' to mean temperament, a sensible discussion of the problems involved, and chapters on gracing, composition, history, etc. North's own memoirs deal with the first public concerts in London and also the first attempt at a subscription series. Like our own critics, he complained about polyglot performances of opera. Most musicians will find points of special interest scattered through the book; for example, non-amateurs of the simpering style of playing the Siciliana will be delighted to find the statement that the new-fashioned expression *Largo* means 'strong and bold'. The Sarabanda 'is an air purely spagnuolo and has the rodomontade humour of that nation'—is this another style we get completely wrong? The brief notes on wind instruments include two points—the mention of a quill as a staple for oboe reeds, and a 'turn-screw to lengthen or shorten the tube' for the trumpet, which are not mentioned elsewhere at that period. Many remarks throughout the book throw light on the total musical revolution caused by the introduction of the violin.

Mr Wilson has done an excellent and unobtrusive job of selectation, annotation and 'continuity'. For the benefit of the less organologically minded reader, the footnotes to the sections on ornamentation on stringed instruments could have stressed more the difference between fretted and non-fretted types. An excellent appendix gives exact details of the sources of material. J. A. MCG.

ROSALYN TURECK. *An Introduction to The Performance of Bach.* (London: Oxford University Press, 1960.) Three books of text and music. *An Introduction to Bach.* H.M.V. ALP 1747.

'A valid, living and communicative performance,' says Miss Tureck in the preface to her *Introduction to The Performance of Bach* 'is the result not of licence, but of information, experience and insight'. This is true; but there is also that indefinable quality which lives in the no-man's land between musicianship and show-business, without which there can be no performance in any real sense. The idea that the only alternative to romanticized Bach is organized dullness has been prevalent for a number of years and Miss Tureck is too original a pianist to subscribe to it. She offers instead expert and purposeful tepidity in her recording of these pieces, a considerable amount of useful information and advice, not always pithily presented, in the text of the three books; and a musical text which looks like a dog's dinner.

One assumes that this series, which starts at an elementary level, is meant for the average pianist. Taking into account that visual musical awareness is generally far in advance of the aural awareness which should precede it—but rarely does under our ill-balanced system of musical education—the musical text, unless taken in constant conjunction with the preface and essays, seems likely to produce the very kind of performance Miss Tureck rightly deplores, for it *looks* like almost any over-phrased edition except for the absence of crescendos and decrescendos. One suspects, too, that many average pianists may be defeated

by the thick and wordy prose style; a player on whom the present reviewer tried out Book III was certainly defeated.

Book I contains sound if not altogether original observations on phrasing, dynamics, ornamentation, touch and pedalling, Miss Tureck's *specialité*—the use of certain harpsichord fingerings, some debatable statements on sonorities and instrumental use, and eight pieces from the Wilhelm Friedemann and Anna Magdalena books. On the accompanying disc these, with the exception of the Polonaise, are played *faux enfantin*, at best irritating and at worst close to parody. The tempi are nearly unbelievable; surely one of the points of these little pieces is that they are playable where necessary at a lively tempo, even by young or inexpert hands. The Musette, for example, is funereal, and even though the bagpipe association is mentioned, it has a bass staccatoed out of all connection with a drone; the Minuets would do for dinosaurs and the Marches would inhibit the liveliest pair of feet.

Contrapuntal playing is introduced in Book II with the C Major Invention, Fantasia in G Minor, and Prelude and Fugue in A Minor, with further notes on fingering, ornamentation, phrasing, on contrapuntal playing in general and fugue playing in particular. The excellent contents of the last would be invaluable for the average, and indeed for the more than average pianist, if they could have been reduced to a few clear and simple statements. In the more elaborately-textured music which appears in this book, following Miss Tureck's methods of fingering, articulation and attack should produce something like the impeccable part-playing which is apparent on the disc, though it is unlikely that many amateurs will achieve her range of dynamics between *p* and *mf* or her magnificent command of pedal-less sostenuto. It is curious that, in spite of her strictures on romantic attitudes to Bach, her own playing of the forthright subject of the A Minor Fugue is ruthlessly romantic in the manner long made familiar to British audiences by one of our musical knights.

The introduction to Book III, again on fingering, dynamics and ornamentation, is excellent, but the performing notes at the beginning of each piece contain some peculiar statements and are not all of much practical use. Are the colour and style of the F Minor Suite reminiscent of lute music? Must a Courante be played staccato because 'it's name spells lightness—staccato touch is a natural conclusion'? Miss Tureck says, with some truth, that staccato does not destroy the line and, conversely, legato does not ensure it; but without further definition of the *nature* of the staccato or legato, her statement is not capable of much practical application. In fact, the woodpecker staccato she herself uses does not seem to be a great line-maintainer and its effect in a long bass phrase is one to strike horror, particularly among cellists, guitarists, bassoonists and all others whose consciousness in the lower octaves is highly developed.

The Gigue in the F Minor Suite presents one of the naughtier rhythmic problems in the playing of baroque music—that of the exact maintaining of a dotted 3/8 gigue rhythm right through the piece. Many recordings by distinguished soloists and ensembles testify to the rareness of its achievement, and it is an unfailing pitfall for the student on any instrument. Miss Tureck does not mention it, and indeed, plays it herself with constantly varying inexactitude.

But the 6/8 Gigue in the A Major Suite (the second item in this book) is firmly chopped down into 3/8 by slowish tempo and heavy sound, even though the notes describe it as 'straightforward, lively, written with brilliance and transparency'. The notes preceding the Aria and Ten Variations in the Italian Style are again useful, but in spite of the frequent reminder of the 'long line', this is exactly what the performance itself does not have.

All attempts to produce 'authentic' performances of eighteenth-century music on the modern piano are bound to lead to what Mr Khrushchev calls internal contradictions, varying according to the compromises made with the machine, but still inevitable. In this case, the inescapable dullness of the piano when played deadpan at a very slow tempo (however agreeable the selected sound), the effect of actually level phrasing which in certain contexts does not sound level but only clumsy, and most of all, the absence of that feeling of physical impetus which is essential in the performance of non-romantic music, combine to produce a lack-lustre triumph over the many other virtues of Miss Tureck's conception and playing of Bach. One pianist's meat is so often another's rice pudding, and who is to say which palate is 'right'; but the difficulty here is to reconcile the apparent soundness of the recipes with the tasteless dishes served up as samples. J. R.

HENRIK GLAHN. 'Tysk Barok-Cembalo og Fransk Rokoko-Harfe', offprinted from Yearbook 1950–58 of the Oslo Kunstindustrimuseet. (Oslo: Kirstes Boktrykkeri, 1960.) 27 pp. Ill. in half-tone and colour.

A study, in Danish with an English summary, of two unusually fine instruments forming part of the rich collection of the Oslo Museum: a one-manual harpsichord made by H. A. Hass of Hamburg in 1732, and a French thirty-five-string harp of about 1770–75. The harpsichord is listed on p. 101 of Raymond Russell's excellent *The Harpsichord and Clavichord* (Faber, 1959); Fig. 7 of Glahn's study shows that its attribution and date are not in doubt, since the sound-board is inscribed 'Hieronymus Albrecht Hass fecit/Hamburg. Anno 1732'. The whole of the case is elaborately lacquered in the Chinese taste; part of the vivid decoration of the lid is reproduced in colour as Fig. 3. The French harp belonged to a French officer, Major-General de Bretteville, who fled to Denmark in 1794. His daughter settled in Norway; her grandson, Alexander Malthe, died in 1928, bequeathing the instrument to the nation, together with a portrait of the Major-General playing his harp. We even know his favourite piece of music, for the painting shows on the table in front of him a manuscript book containing J. C. Fischer's famous minuet in C Major (used by Mozart as the theme for a set of variations for keyboard). The harp, which is provided with a set of single-action pedals, is beautifully carved and decorated, with bouquets of flowers painted on the sound-board. The author of the article also gives a useful short survey of French harp manufacture during the eighteenth century. T. D.

ANTHONY BAINES. *Bagpipes*. Pitt Rivers Museum, Occasional Papers on Technology. (Oxford, 1960.) 139 pp. Ill. 21*s*.

Mr Baines's qualifications as the writer of an authoritative book on bagpipes

must be almost unique. He is not a Scotsman; his stomach for research and collection of material is phenomenal; he is one of the few experts in this field who is both a trained musician and well-versed in general folk-studies; he has the knack of extracting the essentials from texts in improbable languages; he has the rare gift of presenting technical material in a highly readable form; and most of all, as a woodwind player he has a sharp nose for the detail that really matters in terms of musical effect or playing technique.

The book opens with an exposition of the mechanics of the instrument (many readers will be surprised that it can have as many as eight pipes), diagrams of various kinds of double chanter and two interesting maps showing the distribution of the main types. The precise description of the basis of measurement employed sets the tone for the thoroughness and clarity of the book. 'Pipes are measured removed from the bag and without the reeds. Drones are measured with the slides pushed home. Hole positions are not given, these being in most cases readily ascertained from the drawings in the text.'

The main chapters describe the various types of bagpipe and its primitive relative, the hornpipe, and their special features of playing technique, each kind being illustrated by a detailed description and measurements of a Pitt Rivers Museum specimen. The vital but confusing question of which chanters have conical and which have cylindrical bores, which use double reeds and which the various types of single reed, and which rare aberrants have double reeds for the drones, is so presented that even the uninitiated cannot miss its basic importance. As to the hornpipe, there is an amusing account of the accepted oriental method of learning to breathe and blow at the same time, a technique still used by some oboists, but generally surrounded by a certain amount of professional hocus-pocus.

There are thirty-three photographs of bagpipes, eighteen action photographs of pipers in various parts of the world, seventy-eight scale drawings and fourteen musical examples showing the characteristic style of different instruments. The Estonian and Turkish pipes will come as a surprise to many readers, and Mr Baines has found some traces of the elusive Welsh bagpipe whose disappearance is no doubt accounted for by the early development of fairly complex harmony in Wales. The non-technical reader will find many points of interesting peasant ingenuity—the 'moisture-collecting sump' in the blowpipe of some Rumanian instruments, and the lump of beeswax which some Italian and Rumanian players keep stuck in the bell, ready for the job of retuning the holes. For the general organologist there is much fascinating material, such as the bore drawings taken from X-rays and the 'flea hole' near the top of the Bulgarian chanter, which raises all notes about a semitone and is used for vibrato. The existence of this on a reed instrument would seem to invalidate Eric Halfpenny's apparently convincing explanation of the similar and better known device on the recorder and flageolet (*GSJ* VII).

The musical texts illustrate a number of intriguing devices such as the Hungarian staccato, in which apparent silence between notes is obtained by playing in unison with the drone, the use of movable tonic and dominant drones, and the simple polyphony of the Italian and other double chanters.

One would have to place the field very carefully to catch Mr Baines out on any mis-statements or omissions; but perhaps the bald statement that 'larger bore sharpens the pitch' requires some qualification with regard to *conical* pipes. Also, Asturian pipers seem to claim that their instrument is much more distinct from the *gaita gallega* than Mr Baines indicates—though I fear that it would take a good knowledge of rapid Asturian Spanish to discover in exactly what respects. And, unless I have misunderstood the passage about small-pipes, there is some confusion between the Tweed and the Forth.

Such trifles apart, the only real criticisms one can make arise from the fact that the book has so admirably exceeded its ostensible scope, that of a descriptive survey of species based upon the Pitt Rivers collection. In the preface, the author modestly hopes that his facts will be useful to a future authoritative writer; but, to use one of the ornithological metaphors to which he is addicted, in setting out to write little more than the Check List he has achieved something more than the Handbook and at this point one becomes aware of the limitations imposed by its appearing in a technological series. The musical illustrations establish the connection between the technical peculiarities of the more exotic pipes and the music which they play; but as this will clearly be the standard work on bagpipes for some years to come, one regrets that the purely musical aspect could not be dealt with more fully. It would have been convenient to have some Scottish, Irish and Breton examples for comparison, though it is true that they are obtainable separately elsewhere.While admitting its necessity, one can only regret the absence of discussion of the interesting features of the Scottish *piob mhor*—its ancient 'word notation', the influence of its large *written* repertoire, the existence of long works in extended forms, unique in Europe for a non-modulating instrument and rarely discussed by musicians or given even a putative ancestry; and also the curious culture transference which impels Indian, Pakistani and Gurkha pipe majors to compose pipe music in the Gaelic idiom. It is a pity that these matters should be left to the possessors of 'patriotically centred and other prejudiced view-points' which the author properly deplores.

Despite the exceptional interest of the French *musette* as an artefact, it is tantalizing to be denied a full account of its unique position astride art music and bagpipery, and of its influence on the origin and design of the baroque woodwind, particularly as Mr Baines is so well qualified to illuminate this still rather shadowy period. But to leave might-have-beens and to return to the strictly organological matters with which the book deals, current practice in reed making, in materials ranging from goose quills to metal, is discussed thoroughly. The historical aspect, however, as it affects instruments now using the customary *arundo donax* is omitted. Scottish pipers sometimes speak vaguely of the boortree (elder) as a possible early material, but seem to have no positive facts to go on. This subject is important, since a decisive change in the sound producer would almost certainly be followed by changes in the proportions of the pipes. The trade in Spanish cane could, of course, go very far back—French and Spanish wines were a notoriously large Hebridean import at an early date—but if our ignorance on this point is really total, it

would have been worth a paragraph to make this absolutely clear.

Photographs of bagpipes are always fascinating, and their impact has not been diminished here by care in showing the technical details. It is a pity that no print was available of the Caucasian instrument, the most gorgeously furnished of all. There is an excellent bibliography of some seventy items. It includes several textbooks from eastern Europe and a number of elusive minor publications which the student would be unlikely to discover unaided. A short but representative list of discs would have been welcome; the available material, ranging from Ireland to the Middle East, is little known, and records of the more exotic forms rarely fail to strike an unexpectedly lively response even from the most respectable musicians. J. A. MCG.

JOSE DE AZPIAZU. *The Guitar and Guitarists from the beginning to the present day.* London: Ricordi. 1960. 48 pp. Ill.

It is regrettable that the present widespread interest in the guitar should not have produced a really good historical survey of the instrument and its music. A. P. Sharpe's *The Story of the Spanish Guitar* (1954), for all its useful information on such as the Panormos, bore marks of hurried preparation (the second edition, 1959, is largely a reprint), and this present booklet is extremely thin and ill-balanced. The author, who has in the last few years made so much good early music available to the ordinary player, has here assembled, with all the dedicated enthusiasm of the guitar *aficionado*, a bundle of snippety information, all presumed to have some reference to fretted instruments, and would persuade us that it shows an upward progress 'until the day the guitar as we know it triumphed'.

Parts of it are not so bad—the section dealing with vihuela and guitar, for instance—but the general impression is of a bewildering and largely meaningless list of names, which, alas, in the process of translation and issue in English, have often become wondrously distorted. The illustrations are disappointing, the photographs of actual instruments in the author's collection are too palely reproduced, the sketchy drawings of primitive instruments do not impress, and inconsistencies of scale and labelling spoil the well-known illustrations from such as Mersenne and Praetorius. Altogether a chance has been missed: the guitar-player who reads this may emerge with a dim feeling that his instrument has a distinguished history but he will really be none the wiser, and those who look for something about the instrument itself will find nothing at all. AL. B.

ED. DOM ANSELM HUGHES AND GERALD ABRAHAM. *The New Oxford History of Music: Vol. III, Ars Nova and the Renaissance,* 1300–1540. London: Oxford University Press. 1960. Pp. xix+565. 8 plates. Music examples. 3 gns.

Here, one must feel, is the outstanding success among the three fine volumes that have now appeared in this series. Whether one is a general reader or a specialist, an amateur or a professional, it will remain always a privilege and a joy to possess in this one beautifully-produced and well-planned volume so rich an exposition of the finest musico-historical researches and judgments of the post-war era. The list of contributors, Gilbert Reaney, Leonard Ellinwood,

Frank Ll. Harrison, Manfred Bukofzer, Rudolf von Ficker, Charles van den Borren . . . , alone inspires confidence. The volume has been some time in making its appearance, and some of the authors are no longer among us, which confers upon the book the added authority of presenting their last words on their respective subjects. This being so, the editors have sanely resisted what might have been a temptation to some minds, namely to amend, insert, scatter footnote references, or augment the bibliographies to incorporate every relevant scrap of a learned offering which may have appeared in print subsequently to the decease of a contributor. A few added references do occur, and these suffice to serve as an honest admission to the lag of time separating the completion of various chapters from the year of the imprint—a lag which anyhow scarcely amounts to a damning interval in a non-urgent science where humane demands are served better by completed works of high quality than by a stampede to show up-to-dateness.

To concern ourselves here only with the parts dealing with instruments: it follows well-established tradition, at least among the British schools of music history, to discuss Instrumental Music before describing Musical Instruments. The reverse order would interfere badly with the planned sequence of a book of this nature since so few of the instruments have specific medieval or renaissance music connected with them. Hence Yvonne Rokseth's admirable account of the early keyboard and lute music aptly precedes Gerald Hayes's review of the instruments, many of which were of popular, pastoral or warlike character without leaving a written note to their credit today. Tackling his subject from a documentary angle, the late Gerald Hayes follows the trail through accepted historical sources: the iconography, and the references in contemporary literature—a trail that will no doubt be trodden as often again in the future as it already has been in the past—though possibly from a different starting camp. The commonest precept hitherto has been that since nearly all the medieval instruments have long vanished from our cultivated musical art, an attempt to understand them and, if desired, resuscitate them can be made solely in the light of contemporary evidence, backed by a musician's intuition. Within these terms of reference Hayes proceeds with characteristic thoroughness and perspicacity. Another direction of attack, however, is that which has recently been much discussed elsewhere, and is indeed hinted at in another place in the present volume, namely in the strange and intriguing chapter on 'European Song (1300–1530)' by Walter Salmen, who (p. 352) mentions recent oral tradition in remote country districts as a fruitful source for the music historian. European folk instrumental tradition might analogously be invoked to fill out our picture of early popular instruments. This is not what we may specifically be seeking to do; but, just as music history rests first and foremost upon understanding of notations, so that of instruments should aim first towards concrete understanding of constructions, and there exist enough early specimens of musical instruments, of enough different kinds and of renaissance age, to make their detailed technological examination worth the labour, so long as, in order to fill gaps and build a comprehensive picture, traditional folk instruments are similarly examined and their constructions—as well as, in many

instances, their social functions—taken into consideration. With such thoughts in mind, while yet having full respect for Hayes's scholarship, one feels bound to wonder after reading his chapter what Mahillon or Galpin, with their wider interests in the field of musical instruments, might have written in its place.

A point in this same chapter which calls for direct criticism is an obscurity about medieval fiddles. On p. 475 we are told that the instrument which Jerome of Moravia describes (in his well-known section on the *viella*—in which, incidentally, playing posture is not mentioned) was the more or less oval-bodied instrument which was played on the shoulder and 'seems to be the one to which the rather indefinite name *fiedel* (in all its various guises) was applied'. This reaffirms the conclusions of Panum and Sachs, reached largely on the grounds that a statistical survey of contemporary iconography shows that fiddles —including minstrels' *vièles* (e.g. the well-known miniature showing Adenet le Roi)—were generally played '*da braccio*' and far less characteristically '*da gamba*'. Hayes seems to reason that Jerome's viella was a *da braccio* instrument because a bourdon string off the fingerboard could be used on it, and this too seems to be sound iconographically. But on p. 499, when quoting Johannes de Grocheo that the *viella* is 'the best, because most completely expressive, of all stringed instruments', Hayes employs the term 'viol', which seems tendentious; for though elsewhere in the volume the editors have allowed 'viol' to stand as a suitable term for medieval bowed instruments of non-rebec kinds and thus to translate *vièle*, *viella*, etc., Hayes, on p. 473, gives it a closer definition: by 'viol' he means a *da gamba* ancestor specifically of the later consort viols, and standing quite apart from his separate line of *da braccio* bourdon fiddles leading up to the renaissance *lira*. Though we are not obliged to assume that Jerome and Johannes both meant the same thing by the latinized word *viella*, one would have thought it likely that they did so; Johannes does not mention a bourdon string, but neither do the majority of pictures of *da braccio* fiddles show a string off the fingerboard—which anyway Jerome describes as optionally dispensed with. An assumption to the contrary, and carried to the extent of postulating in these two sources two different viellae of sharply-differentiated historical significance, would seem to require less dubious support than that which Hayes offers on the same page, where, to adduce a further example of a medieval *da gamba* 'viol', he cites the instrument labelled *viola* (here Latin) in the British Museum MS Sloane 3983. This instrument, though apparently no different from one of the common forms of minstrel's *vièle*, is, writes Hayes, 'significantly placed vertically' [i.e. presumably, head upwards] and thus a 'viol'. As a matter of fact, on f. 13 of this manuscript it is drawn twice, both times labelled *viola* and in one case horizontally and in the other diagonally with the head uppermost; while on f. 42 it appears again, without the name, but drawn vertically with the head *downwards*. This might seem a trivial point to mention were it not for Hayes's own emphasis. Gerald Hayes, to whom the Galpin Society has owed much in the past, has rounded off the present volume with a humanely written and useful summary of medieval representations and references; yet, even if one takes into consideration problems brought by restricted space, it is hard to escape a feeling that he was moved

to some extent by a prejudice against anything which might possibly dignify the ancestry of that instrument which in later history appears, at times, as a victorious challenger to the viols he loved, namely the violin. A. B.

R. MORLEY-PEGGE. *The French Horn.* (London: Benn.) 1960. Pp. 222. Ill. 25*s*.

In this splendid book Mr Morley-Pegge has collated the work of two lifetimes—his own, and also that of the late W. F. H. Blandford, whose abundant notes were passed on to him. Mr Morley-Pegge had the further advantage of living and working in Paris during the period between the two wars, where he held the post of First Horn in the Trianon Lyrique, as well as numerous other such positions, and thus had matters Continental ready to hand.

After a glimpse into the dim mists of antiquity (e.g. Scandinavian lur and Roman buccina) he traces the evolution of the horn from the Middle Ages until the present day. There are special chapters on metals and manufacture, omnitonic horns, and the development of a remarkable assortment of valves. Miscellanea cover other relevant matters such as mutes and mouthpieces—though we might have had more information about the latter, such as the results in practice of different shapes and dimensions. He probes the art of stopping and gives his own most plausible theory. Biographical notes follow, and the treatise ends with a list of makers, an extensive bibliography and appendices containing some exceptional solo passages.

Historically it is hard to imagine a more exhaustive critique of facts, and the ground is intensively covered with the possible rider that a reprinting (even in précis) of Blandford's famous article on the Fourth Horn part of Beethoven's Choral Symphony would have been a welcome addition. While, however, Mr Morley-Pegge would be difficult to beat as an historiographer, he will not take all of us with him in his section on the evolution of playing when he comes to latter day practice. Is the loss of hand technique really to be so greatly lamented? Conductors and audiences are too fastidious today to accept the tempering of any note by the hand, with the consequent slight off-colourness of tone. The exaggerated dynamics current today would further accentuate this, especially in broadcasting and recording studios where baffle boards are so often placed behind the horns for greater resonance. If the intonation of any note is not spot on, it must normally be tempered by lipping or by valve correction, the hand in any case being hardly practicable for rapid passages—a technique for a more leisurely age?

It is, however, in his opinions of the relative tonal merits of narrow-bore French and wide-bore German horns that most of us today would join issue with him. While it may be true that the latter can sound rough in untutored hands, the former certainly can also, the fact being that quality of sound is an individual matter for performers and listeners alike. It is of interest to recall that when Aubrey Brain went to Berlin at the peak of his career to take part in Ethel Smyth's Concerto, he was considered in England to have a tone of great beauty. But what did the Germans think? . . . that he made a funny little sound. Nevertheless, whatever personal opinions we may hold upon this matter, every generation can be relied upon to contribute something to evolution and

we can safely say that a far higher percentage of British players can now elicit a pure sound from a B♭ instrument and master its vagaries. In the meantime there are up and coming German First Horn players who are perfectly at home on instruments built in F alto and are yet able to maintain a sound indistinguishable from that of a normal F horn; manufacturers' improvements have also helped. This to some extent bears out the final paragraph of the evolutionary chapter of this book.

Here then is a comprehensive thesaurus which is excellently annotated and copiously illustrated, while much joy can be captured from sundry Plates of horns which may well be described as Ancient, Quaint and Modern. R. B.

RAYMOND RUSSELL. *The Harpsichord and Clavichord.* (London: Faber and Faber.) 1959. 208 pp. Ill. 5 gns.

In his introduction, the author states: 'The book is meant for those who know nothing, or only a little about the subject, though it will teach much that is new to the most experienced', and later he says that he has tried to stress the instruments in most general use, leaving out the primitive, the rarity, the decadent, and the exception, unless having some general significance. He has succeeded admirably in doing this, and in writing a comprehensive work, long needed, which he modestly calls an introduction to the subject, and which together with Donald Boalch's *Makers of the Harpsichord and Clavichord* should be in the hands of all those interested in the classical forms of these two instruments.

The book is extremely well arranged and begins with a detailed description of the essential construction and working parts of the instruments (a three-dimensional diagram of the harpsichord action might have helped here). The confusing terminology of virginal and spinet is fully discussed, though perhaps he has been a little unfair to the virginal as an instrument in its own right. There follow chapters on the various national schools of design, backed up by numerous examples from contemporary works on the instruments and references to them, showing for instance the differences between the two main types of harpsichord construction, the Flemish and the Italian, with photographs of the two kinds of internal bracing employed. About a third of the book consists of excellent photographic illustrations, many of instruments from the author's former collection. The overhead views showing sound-board, bridges, etc., are particularly illuminating, and when read in conjunction with the overall dimensions, scaling lengths, and positions of plucking points, have almost the value of scale drawings, besides including much other information, though as a minor criticism the reference letters might have been a little neater for appearance's sake. A chapter on the nineteenth century shows that interest in the harpsichord never quite died out during the period before the modern revival. There is also a large and fascinating appendix containing some unusually interesting material, for instance a sale catalogue issued by Franciolini in 1900.

As examples of points which are fully discussed, the following may be mentioned; the derivation of the two-manual harpsichord from early transposing instruments; the rarity of the 4-ft. stop in Italian harpsichords, and in general

of the 16-ft. stop, so much used by performers nowadays; the development of the machine stop, swell, and other devices, in an attempt to compete with the pianoforte; the exposure of the so-called 'Bach' harpsichord specification; these are merely a few examples from the mass of new and valuable information contained in this excellent book. T. A. G.

Nouvelles de l'Institut de Musique (*Izvestiya na Instituta za musika*). No. V. (Sofia: Bulgarian Academy of Sciences, 1959.) Pp. 305. Music examples. Ill.

This volume provides a good example of what is so easily missed unless one has time and opportunities to keep abreast with the multitude of thriving institutions and publishing bodies in the remoter countries of Europe. Three contributions concern musical instruments, each with an all too short résumé in French for which one is nevertheless grateful. 'Instruments de musique de l'époque antique des trouvailles archéologiques de Bulgarie' by Z. Rakeva-Morfova (we will quote titles of articles in their given French translations) describes sculptures and paintings, with forty-seven illustrations, of musical scenes dating from the Hellenistic and Roman periods, chiefly from Thrace: representations of lyres, double pipes, timbrels, and a statuette showing a hydraulis (Sofia Archeol. Museum), and also actual specimens of sistra and bells. The second article, quite a short one, is by B. Angelov, 'Instruments de musique mentionnés dans des manuscrits slaves anciens'; he quotes Bulgarian references to instruments in manuscripts from the thirteenth to the sixteenth century; the names which occur, according to the résumé, are: *timbany*, *organy*, *pregoudnitsa*, *gusli*, *svireli*, *suringy*, *trouby*, and *salpinki*.

These above articles merit full translation both for themselves and for the very considerable amount of rare bibliographical information contained in them, and this may be said even more of the third article, 'Les rebecs[*gadulkas*] en Bulgarie' by I. Kachulev (who has also written other works on Bulgarian instruments; see *Acta Musicologica*, xxxii, 1960, p. 85). The author first discusses, with the aid of five illustrations, the medieval history of both the long fiddle *gusla*, which was played in western Bulgaria up to fifty years ago (and, of course, remains played in Yugoslavia); and of the short fiddle *gadulka*, still heard in many parts of Bulgaria (and on numerous recordings of the country's folk music) at dances and weddings, and for the recital of epics. The gadulka, of which many illustrations are given, resembles the Aegean *lyra*, being a carved rebec with pine belly. The belly has two semicircular soundholes, and in many examples the right foot of the bridge (i.e. to the player's right, the instrument being held downwards, viol-wise) passes through the right soundhole to the back (crwth-wise), or bears directly on a soundpost which projects through the soundhole. Gut strings run from rear pegs to tailpiece, and are three in number by older tradition though four, even six, are found, while in eastern Bulgaria there may be up to a dozen sympathetic strings also. Tunings, varying regionally, are to simple intervals and often re-entrant, and one string is sounded very much as a drone. Strings are stopped without pressing them against the neck, using the fingernail for the first string and the soft fingertips for the others—a well-known feature in the history and ethnography of fiddles.

Latterly the gadulka has been developed in treble-to-contrabass consorts for state ensembles, a violin-style fingerboard being sometimes incorporated. The article includes thirteen music examples in addition to many specimens of tunings and fingerings given in staff notation. A. B.

ARCHAEO- AND ETHNOMUSICOLOGY

J. V. S. MEGAW, 'Penny Whistles and Prehistory', *Antiquity*, xxxiv, p. 6 (London, 1960), supports the thesis that the hunting or dancing disguised figure in a well-known cave painting at Les Trois Frères in the Pyrenees is playing some kind of flute—not a bow of any kind—and most probably a bone flute having some shamanistic intention. To stress this probability Mr Megaw makes out a most useful inventory (with a Plate showing eleven examples) of European bone flutes dating from the Upper Palaeolithic to the Middle Ages and including several early specimens that have turned up since Otto Seewald wrote his classic monograph in 1934. The bone flute theory for Les Trois Frères is again supported by A. HÄUSLER, 'Neue Funde steinzeitlicher Musikinstrumente in Osteuropa', *Acta Musicologica*, xxxii, p. 151 (Basle, 1960). Dr Häusler's short article is important especially for its account of discoveries in neolithic graves of sets of from seven to eight bones which appear to have once formed pan-pipes: a set from Mariupol on the Sea of Azov, found before the war; and one found quite recently near Skatovka, Saratov district (Volga). Both sets date from the centuries around 2000 B.C. Among other comparatively recent finds in east Europe, he describes an upper palaeolithic fingerhole bone flute from Molodova on the Dniester, and a neolithic pottery vessel rattle found in a Moldavian child's grave.

Musical archaeology and ethnology meet once more in HANS HICKMANN, 'Rhythme, mètre et mesure de la musique instrumentale et vocale des anciens Egyptiens', *Acta Musicologica*, xxxii, p. 11. Dr Hickmann's indefatigable quest for ideas and evidence through which piece by piece to reconstruct a physical picture of the music of Ancient Egypt provides, as always, some fascinating reading. An oriental manner of counting on the fingers, as witnessed today for controlling the musical time of Indian dances, suggests further ideas for solving the Egyptian musicians' chironomic code; the measured length of a corridor or chamber within the pyramids may provide a pointer to the tempo of a funeral chant specifically associated with procession through it; and so on, with a concentration that defies brief summarization, a photograph of two stick sistra for which a shaking rhythm is deduced from a passage in Apuleius, and a small mishap to the Arabic on p. 17, perhaps intended by the editors (if one good turn deserves another) to make easier reading from left to right. The greater part of the April-September issue of *Acta*, xxxii, is devoted to an important series of ethnomusicology reports from Turkey and seven European countries, organized by PAUL COLLAER, who himself (p. 51) leads the symposium with his 'Polyphonies de tradition populaire en Europe méditerranéenne'. In a spirited introduction he presses the validity of inductive research on the great quantity of folk music now available for comparative study, both in published

recordings and in institutional archives. Accordingly, he sets the ball rolling with an enterprising theory of derivation of western polyphony from two folksong elements which occur widely across southern Europe (far more than in northern) as far as the Caucasus: *viz.* drones, and consecutives. The first stage of the drone he sees as the final note of a stanza held on while a second voice takes over the monodic melody. Numerous music examples illustrate the thesis, some of them instrumental, which opens a question into which M. Collaer no doubt lacked the space to enter: To what extent can vocal and instrumental phenomena of these kinds be considered together in terms of origin? There are, of course, attested imitations by the one of the other; but there are also instruments which by their nature sound a drone (as guimbardes); and upon which consecutives (e.g. the fourths in the Turkish fiddle example on p. 60) may have originated 'mechanically' through relish for a simple sonorous effect lying naturally under the hand; while to 'drum' on the strings of an instrument while singing or reciting might be cited as a natural inclination not necessarily associated with pitch but productive of ostinato forms becoming, through usage, defined in pitch as well as rhythm. Such observations, while saying nothing new, are proferred only to suggest that in further development of M. Collaer's thesis, germs of polyphony which are of purely aural selection be perhaps methodologically distinguished from those in which aural assent may be subsequent to physical properties of instruments or mechanical impulses in sounding them. The ensuing articles—the regional reviews—fully justify the editor's policy for this issue and M. Collaer's execution of it. The bibliographical information contained in them is especially welcome. A. B.

MUSIC

GASPARD LE ROUX. *Pieces for Harpsichord.* Ed. Albert Fuller. Published for Alpeg Editions, New York, by C. F. Peters Corporation. $10.00.

Although Le Roux was rightly regarded in his day as one of the leading *clavecinists* and composers of the *grand siècle*, he has left remarkably little trace. Our knowledge of him only extends from 1690 to 1707. His *Pièces de Clavecin* were first published towards the end of his life in 1705. Apart from a few performances of the duets by Susi Jeans and others (taken from the MS copy of the pieces at Cambridge) this first modern edition will provide the first real knowledge of the pieces to harpsichordists. Mr Fuller gives a very full introduction which, being printed in reasonably small type, despite its great length, does not noticeably increase the bulk of the volume which is of the oblong form very comfortable for use on a two-manual harpsichord. The music is very fine and the publication is a 'must' for all interested in baroque keyboard music. The fifty-odd pieces fall into seven tonality groups from which it is possible to select and ring the changes on seven suites. Four of the groups begin with *preludes non mesurés* in the style of Louis Couperin and two of them have a few figures in the bass to clarify the harmonic implications. Le Roux's pieces are particularly important for giving examples of how to carry out two French practices with regard to their keyboard pieces. They are the not infrequent suggestions by their composers to play the pieces on violins, oboes, flutes or

recorders, or even on two harpsichords. Le Roux gives under most of the pieces a score for alternative performance by first treble, a *contrepartie* for second treble—partly derived from the tenor-register passages in the originals up an octave, and partly new—and a figured bass. A valuable facsimile of a page from the original shows just how this was done, but it was not practicable to print the instrumental versions as well in this keyboard publication. I hope Mr Fuller will bring these out separately, as they would be a welcome addition to the repertory of small chamber groups (and could also, of course, be played by one instrument and harpsichord). At the end, Le Roux has given six pieces fully written out for two harpsichords—a new one in G and five movements from the suites, together with their *contreparties*. That these pieces were probably known to J. S. Bach appears from the striking coincidence of theme and harmony between the Allemande in F and the Courante from the orchestral *Ouverture* No. 1 in C by Bach. The identical theme had previously appeared in both the Prelude and Almond in C (by Henry Purcell) at the end of *The Second Part of Musick's Hand-maid* (Henry Playford, 1689). The music is well edited, clearly printed and page-turns are largely avoided. This publication does Mr Fuller great credit.

There is also a recording by Mr Fuller of all these pieces on Overtone Records (two sides). After his excellent edition it comes as a surprise, and it gives one no pleasure to have to condemn the recording. Most of it is marred by anachronistic registration and by a jerky lack of rhythm or phrasing which produces an ultra-Romantic interpretation quite at variance with the polished dignity and flowing grace of the music. We have to endure all the tricks and fripperies of the modern harpsichord with its 16-ft. pitch, crescendi and decrescendi, harp stops, and the slight pauses for the clicks of stop-changing in the middles of pieces—all of which are quite foreign to the classical instrument of late seventeenth-century France. That Mr Fuller uses these effects despite his knowledge of the type of instrument called for (*vide* the introduction to the music) may have been due to an attempt to cover up a lack of colour in the harpsichord he used, which does not come off at all well in the recording. The voicing sounds far too loud and one gets the impression from the hesitant attack of chords that the touch of the instrument may have been so heavy as to be the cause of the jerky rhythm and lack of flow in the playing. All this seems a great pity as Mr Fuller has obviously put a lot of thought into the performance of the ornaments, etc. Perhaps he will make another recording using a suitable instrument.

G. F. O.

Portugaliae Musica, Vol. I. MANUEL RODRIGUES COELHO, *Flores de Musica* for Keyboard Instruments and Harp (1620), Vol. I, transcribed and edited by Macario Santiago Kastner. Fundação Calouste Gulbenkian, Lisbon, Portugal (1959). £4 15*s*.

This new series sponsored by the Gulbenkian Foundation is designed to put the musical heritage of Portugal firmly on the map, and has begun well with the *Flores*, her earliest collection of keyboard music and the only printed volume by her best-known composer. This project is under the direction of a committee

of three musicologists, including M. Kastner, to whom most of our knowledge of early Portuguese and much Spanish music is due.

Coelho was born at Elvas *c.* 1555 and died *c.* 1635 and was thus contemporary with our late Elizabethan and Jacobean composers. He was organist successively at Badajoz, Elvas and Lisbon Cathedrals, finally becoming organist at the Chapel Royal, Lisbon, from 1604 to 1633. It is thus not surprising that the *Flores* are best suited to the organ. This is because of the style so characteristic of southern Europe during the Renaissance, where rapid divisions alternate between the various parts while the remaining three parts play much slower notes often holding colourful harmony. Here the sustaining power of the organ holds the music together. However, the music does not require pedals; it is transcribed on two staves and sounds fine on an Italian type of harpsichord, etc., with a rich resonance. The organ need only be quite simple, with one or two manuals and simple octave-sounding stops with mixtures. No half-stops such as cornets or reeds are required, these belonging to the organs and music of succeeding generations (especially in Spain). The present volume is the first of two instalments of the complete work and contains three *tentos* on each of the eight modes and four *Susanas*. These twenty-eight pieces occupy 279 pages, and with an average of ten pages per piece it is a pity that the music could not have been compressed much more on each page to assist the performer and decrease the bulk of the volume. Omission of the twenty-two-page appendix which repeats one tento above a slightly ornamented version by the editor (making *three* full copies of this one piece) and perhaps a reduction in the twenty-two pages of facsimile would have further reduced the bulk and cost of the volume. Nevertheless its production is fine, lavish and clear, and it will be a valuable addition to the library of the lover of Renaissance keyboard music. The music is enjoyable and repays much playing through, and, although no wide variety is covered, there are many moments of beauty and much fiery though dignified passage work. The music naturally reminds one of Spain, also of Italy and even Sweelinck. The introductory material is also given in English. Volume II, consisting of the compositions based on liturgical themes which comprise the rest of the *Flores*, will be following shortly. G. F. O.

Buxheimer Orgelbuch, extracts transcribed by Alan Booth. London: Hinrichsen. Vol. I, 5*s.* 6*d.* Vol. II, 6*s.* 6*d.*

HOFHAIMER. *Salve Regina*. Ed. Denis Stevens. Hinrichsen. 4*s.* 6*d.*

Vol. I of the *Orgelbuch* extracts contains eleven, and Vol. II twenty-two, pieces selected from the 256 of the complete Buxheim organ book. Most of them are transcribed on two staves. A facsimile and complete transcription on three staves have recently become available. The present extracts will be acceptable to keyboard players unwilling to embark on the complete work. Also many will find it easier to play from two staves (the Tenor and Contratenor usually being combined on the lower stave). The pieces have been carefully transcribed and edited. The preface makes the incredible statement that the Buxheimer book 'summarizes all previous attempts at organ composition'! The book is very much a period piece of the fifteenth century only as one would

expect and in any case nearly all the pieces are not really organ pieces at all but merely stylized transcriptions! The music is both interesting and enjoyable and many pieces are very beautiful. Vol. II contains pieces by Conrad Paumann and Dunstable (three, including transcriptions of *O Rosa Bella* and *Puisque m'amour*). As this is the principal source of fifteenth-century keyboard music, it will be to most players their only extensive acquaintance with music of the period.

Hofhaimer's working period covers the end of the fifteenth and first part of the sixteenth centuries, and thus carries on where the Buxheimer Orgelbuch left off. This polyphonic setting of the six odd-numbered sections of the *Salve Regina* is given with the plainsongs of the five intermediate sections. This is an extremely beautiful work, well presented. It is interesting to compare an earlier setting, also for alternate verses, in Vol. I of the *Buxheimer Orgelbuch*. G. F. O.

RECORDER MUSIC

W. A. MOZART. *Two Adagios*, arranged for two descant recorders and a treble recorder, by Fritz Spiegl. London: Oxford University Press. Playing score, 2*s.* 6*d.*

The first of these is the Adagio (K. 617^a) for a Glass Harmonica. The liquid tones of Benjamin Franklin's invention are so rarely heard, that the arranger has ample justification for giving it to recorders. As the harmonica does not always confine itself to three-part chords, a few additional small notes are provided for performances with more than one instrument to a part. The other is the lovely Canonic Adagio for two basset horns and bassoon (K. 440^d). I always thought that this was a strict mirror canon between the two basset horns; but this version deviates in two places (bars 4 and 16; 2nd part, last beat in each case); and I am unable to check what the arranger has done since I have misled my old Breitkopf copy.

The arranger further provides for these two items to be played on two flutes or oboes (or one of each), with a clarinet for the third part using a transposed part which is provided. In his preface he writes 'in both pieces less advanced players may prefer to omit some of the slurs and replace them with softly-tongued notes'. Why this restriction to less-advanced players? It is one thing to transpose a piece to fit the range of a different group of instruments, another to arrange it: and that job is only half done if the editor hides behind a kind of 'Urtext', and does not give the less-advanced players every help by phrasing exactly for them. The experts can always make their own revisions if they wish.

BEETHOVEN. *Adagio for a Flute Clock*. Transcribed by Fritz Spiegl for two flutes (or treble and tenor recorders) and keyboard. Oxford University Press. 6*s.*

Here, too, the chances of hearing this piece on the instrument for which it was conceived are nowadays remote—ample justification for this arrangement, which fits either flutes or recorders well. Here the arranger is happier in the matter of slurs; but why does he have to say in his preface 'recorder players

may like to omit some of them'? The inference is that he does not believe recorder players are capable of the accurate fingering needed if the slurs are to be observed. On trying out the piano (or organ) part, the question arises: did Beethoven have a mechanical reason for making some of his arpeggios run easily, while others get bogged down with repeated notes?

NICOLAS DEROSIER. *La fuite du Roy d'Angleterre*. For two treble recorders (or treble recorder and violin, or two violins) and keyboard, with optional 'cello. Transcribed by Thurston Dart. Oxford University Press. 7*s*. 6*d*.

This set of pieces was written to commemorate the flight to France and to the court of Louis XIV, of King James II in 1688. Although the titles are dramatic enough, the music consists of the normal run of dance movements. The editor tells us that the original had fourteen movements from which he has selected for publication the first eight, which had descriptive titles such as 'La Navigation du Roi' and 'La Voyage de Versailles', and we are left guessing what the other six were like. The realization of the keyboard part is admirably done.

ANDREW PARCHAM. *Solo* for treble recorder (or flute or oboe) and piano. Edited by Thurston Dart. Oxford University Press. 5*s*.

Musicians must be grateful for Mr Dart's researches in such places as the Brussels Conservatoire Library, for here is a little gem. We may not have any biographical details about this Parcham, but he is revealed here as a worthy composer, well clothed in an excellent piano part, and a few extra twiddles for the recorder.

JOHN ADSON. *Courtly Masquing Ayres* for six recorders, edited by Layton Ring. Universal Edition 12574. Score, 2*s*. 6*d*. *Two Courtly Masquing Ayres*, transcribed and edited by Hugh Mounteney for descant, two trebles, tenor and bass recorders. Oxford University Press. Playing score, 2*s*. 6*d*.

Mr Ring tells us that his three six-part ayres come from Adson's publication of 1621 'for Violins, Consorts or Cornets of 6 parts'. They are Nos. 9, 1 and 2 respectively. From Mr Mounteney's 'Note' we learn a little about Adson's appointments, including the fact that in 1633 he was sworn a musician in ordinary for the recorder and cornett, and that these Courtly Masquing Ayres were 'composed to five and six parts for Violins, Consorts, and Cornetts'. Then, referring to Mr Dart's article in *GSJ* XI, we are reminded that the Royal Wind Music Band consisted of a whole consort of six recorders, ditto of six flutes, a broken consort of hoboys and sackbuts—and that six of the other woodwind players also played the cornett. Then comes what seems to me to be a glorious *non sequitur:* 'It would therefore seem that a whole consort of recorders would be well suited to the performance of the five-part Ayres'. Nobody says anything about the chance that the five-part pieces might have been for the Violins. However, let us not quarrel with the arrangement for recorders, for here are pleasing light pieces—generally in two repeated sections in common time followed by one in triple time. E. H. H.

CHARLES COLEMAN. *Four Pieces for Sackbuts and Cornetts*, transcribed and edited by Anthony Baines. London: Oxford University Press. Score, 4*s*. Parts, 8*d*. each.

Suite from the Royal Brass Music of King James I, selected and edited by Thurston Dart. Oxford University Press. Score, 6*s*.

ANTONY HOLBORNE. *Suite for an Ensemble of Brass or other instruments*, transcribed and edited by Thurston Dart. Oxford University Press. Score, 5*s*.

GIOVANNI GABRIELI. *Sonata Pian'e Forte*, arranged for eight-part Wind and/or Brass Ensemble by Robin Miller. Oxford University Press. Score, 6*s*. Parts, 1*s*. each.

JOHANN PEZEL. *Five-part Brass Music*, transcribed and edited by Alan Lumsden. Vol. I. London: Musica Rara. Score, 21*s*.

These can all be recommended strongly for several reasons. The brass-player has been very ill-provided until quite recently with small-ensemble music which he can enjoy playing and anyone else can be expected to listen to more than casually. It is ironic that some of his greatest satisfaction is often found in what was written for cornetts, only remotely 'brass', and sackbuts, seldom if ever used as we use our trombones: the fact remains that arrangements for modern brass are often highly successful for both listener and player. These are especially worthwhile additions to the meagre amount already available.

A great deal of enthusiasm for old instruments is kindled by the impact of their especial music. Many of these pieces lend themselves even better to the gentler old sounds than they do to the brilliant ones of today. One can hope therefore that they may lead more players to experiment with the original instruments. The editions have in every case been prepared in such a way that they put little or no difficulty in the way of such experiment. The editing is tasteful and unobstructive. It might perhaps have been enlightening to give Gabrieli's own considered suggestion for arranging the two choirs of his Sonata (cornett and three trombones *versus* 'violin' and three trombones) alongside all of Mr Miller's, and kind to point out that the 'violin' involved is the equivalent of a modern viola. Otherwise the original can be very simply reconstructed from any of the scores, which cannot be said of similar transatlantic editions. The *Sonata Pian'e Forte* in a playing edition was issued as long ago as 1931, but the present one should help to make still more widely known a particularly fine piece of great historical interest.

The Four Pieces by Charles Coleman for two cornetts (trumpets) and three sackbuts (trombones) are simple and directly attractive. They come from an appendix to the MS part-books of the Royal Wind Music in the Fitzwilliam Museum, Cambridge, which gives them particular interest. The Suite from the Royal Brass Music of King James I has been chosen from the body of the same manuscript. The four Almandes, Fantasia and Pavan are by James Harding, Giles Farnaby, Jerome and Anthony Bassano and Nicholas Guy. Instruments were no more specified for them than for the pieces by Antony Holborne. Mr Dart has unerringly chosen from both sources what suits two or three trumpets (cornetts) and three or four trombones very well. The Holborne Suite comes

from the same place as the quintets known and well-loved for some time by recorder players. Pezel's *Funff-Stimmigte blasende Music* for two cornetts (trumpets) and three trombones is probably the best known of all 'Tower Music'. This is the first of three volumes that are to make a complete edition. The quality of the pieces is not uniformly high, but to have the unrestricted choice of them is something to look forward to and to be grateful for. C. W. M.

CLASSICAL WIND MUSIC

C. P. E. BACH. *Six Sonatas*, for 2 Flutes, 2 Clarinets, 2 Horns and Bassoon. Ed. Kurt Janetzky. (London: Musica Rara.) 1958. Score and parts, 25*s*.

J. HAYDN. *Feldpartie in C*, for 2 Oboes, 2 Horns and 2 Bassoons. Ed. Karl Haas. (London: Musica Rara.) 1958. Parts, 12*s*.

ANTON REICHE. *Quintett, Op.* 100, *No.* 4, *in E Minor*, for Flute, Oboe, Clarinet, Horn and Bassoon. Ed. Fritz Kneusslin. (Basle: Kneusslin. Distrib. in Gt. Britain by Musica Rara.) 1958. Parts, 22*s*. 6*d*.

Here is a particularly well-chosen haul from the seemingly inexhaustible store of lightweight classical compositions preserved in manuscript in the world's libraries, wherefrom publishers since the war have in general culled much base lead and a little silver. Being, like the publishers, interested in these works mainly for their practical usefulness, I have been reduced to judging them by the simple criterion: might Fritz Kreisler (or even oneself) have done it better? This I always feel, for example, with Graun, and much of Carl Stamitz. But not, of course, with C. P. E. Bach, Haydn or Reiche. All the above-listed pieces are excellently edited for performance, and special praise is due to the fine printing and clear legibility of those published by Musica Rara (most of them first modern editions), providing an example which the Kneusslin edition would have done well to have emulated.

The C. P. E. Bach Sonatas were written *c.* 1755 at Hamburg (though here edited from a later manuscript), being early examples of wind Serenade music. They are themselves enchanting pieces, each of one movement, and full of the graceful and unexpected turns of melody characteristic of this composer. The instruments are used in every combination to give a texture that is immensely varied, at one point economically poised upon the rhythm, at the next swept into as rich a harmony as the number and range of the instruments could allow. The constant antiphony between flutes and clarinets could sound monotonous only with players who fail to enter thoroughly into its spirit. A curious feature for wind music is the range of keys employed: D, F, G, E♭, A and C. No doubt the sonatas were not all played in succession; but even to play two of them the horn players, and in most cases the clarinet players, would have been obliged to make adjustments. The horn parts are transposed normally (often they lie rather high in the manner of the period, though in only one place reaching F horn *c'''*). The clarinet parts are 'in C' throughout, but even if five-keyed instruments had then been used in Hamburg—and they were quite likely four-keyed—each player would have required at least three instruments. Sonata I would have needed D clarinets; *c''*♯–*b'* (actual) occurs too often for per-

formance of the parts on a five-keyed C (a similar case in Handel's Overture for clarinets and horn). Nos. 2, 3 and 6 are good for C's, but No. 4 needs B♭'s, and No. 5 either A's, or else B♭'s with the 'A joint' inserted for the right hand —a well attested provision, and presumably reasonably satisfactory on the old clarinets. Incidentally, these parts go constantly below oboe range, so that there can be no question of substitution.

Introducing Haydn's *Feldpartie* (1761), the editor rightly commends the limpidity of its instrumentation, though he goes rather far in inviting comparison with Mozart's C Minor Serenade. For the unfortunate many who lack convenient access to the complete volumes of Anton Reiche's twenty-four wind quintets, even this not particularly well-chosen and quite amateurishly printed piece might be welcome—at a third of the price. A. B.

ARRANGEMENTS

PALESTRINA. *Ricercare*. Ed. Philip Catelinet. For oboe, clarinet, horn, and bassoon. London: Hinrichsen. Parts, 4*s*. 6*d*.

J. S. BACH. *Inventionen*, arr. David Johnson for oboe or flute, clarinet, and bassoon. Hinrichsen. Parts, 7*s*. 6*d*.; and *Goldberg-Variationen*, arr. David Johnson, publ. and price as preceding. Also *Kunst der Fugue*, arr. for oboe, clarinet, horn, and bassoon by Philip Catelinet. London: Peters. Parts, 4*s*. 6*d*.

All these arrangements are superbly produced and, considering this, remarkably low-priced. Excellent for programme building as well as for private enjoyment of chamber playing, they are sure of a place in most wind musicians' libraries. The Bach Inventions are Nos. 1 to 4, and 8, 9, 11; of the Goldberg Variations, Nos. 3, 9, 15, 18 and 21; and of the Art of Fugue, Contrapunctus 1 à 4 voci. A. B.

H. PURCELL. *Sonata in G Minor* for violin and keyboard, arr. Arnold Goldsbrough, 5*s*. *Two Overtures from the Anthems*, edited for strings and continuo by Robert Noble, score 3*s*. 6*d*. Both Oxford University Press, London.

Two of the three works in these new publications are also represented in Purcell Society volumes issued already. The Sonata, publicized by Bridge, is pleasant and affords scope for Mr Goldsbrough's ample inventiveness. The continuo is light and lucid, the imitations imaginative, and the gambits offered by the (conjecturally) missing bass viol or 'cello part are taken up. (Compare Thurston Dart's Purcell Society reconstruction as a Trio Sonata.) The violin part is provided in two forms—simple in the violin copy, and with suggested ornamentation in the score; a good idea, because violinists will not be inclined to incorporate the embellishments without due thought. Incidentally, Mr Dart's violin part differs in bar 5 of the third movement.

The first of the two Overtures is taken from the Christmas anthem 'Behold, I bring you glad tidings', which is in Vol. 28 of the Society edition. The second is from 'My song shall be alway'. In both pieces, dynamics and tempo indications are added; the bass is transposed an octave at times to accommodate the double bass. Perhaps a quibble on the editor's bowing may be permitted: e.g. slurring four semiquavers regularly without either Purcell's authority or dis-

tinguishing print or comment is something of a liberty if one considers the difference in effect. However, these pieces are well worth their wider circulation in this form, particularly the second with its unusual and beautiful opening crotchet arpeggio. A. G.

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